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"Two Days By Plane"

*America's first transcontinental passenger airline
and the selling of the skies*

By Sean Fraga

A Senior Thesis for the American Studies Program of Yale College

Advisor: Prof. Jean-Christophe Agnew • Second Reader: Prof. John Mack Faragher

Submitted April 19, 2010

New Haven, Connecticut

Acknowledgements

This has been a long journey. While working on this paper, I learned the extent to which scholarship is a collective, not individual, effort. While I am the sole author of this essay—and any mistakes in its pages are mine alone—I could not have written this story without the assistance of dozens of people all across the country.

I owe thanks first to Reeve Lindbergh, who was gracious enough to grant me access to her father's papers and to encourage my project.

At the Yale University Library, my gratitude goes to Gregory Eow, the librarian for American Studies, who was the first to recommend that I look into Charles Lindbergh's archives and who has been a supportive presence throughout the year. Judith Ann Schiff and the staff of Manuscripts & Archives patiently helped my research along.

When I arrived at the Museum of Flight in Seattle, Katherine Williams and the library staff had set out boxes and stacks of books, some of which I hadn't asked to see but all of which proved helpful. Ms. Williams also introduced me to Ted Davies, an independent historian working on a biography of Clement Keys. Mr. Davies spent the afternoon explaining the history of T.A.T. and offered excellent advice on sources.

The staff at the Smithsonian National Air and Space Museum Archives were incredibly hospitable, at one point calling me outside to see Air Force One, which had just taken off from Andrews Air Force Base next door, fly overhead. Also at NASM, Dr. F. Robert van der Linden was kind enough to sit down with me and discuss T.A.T. and its history. That meeting did much to clarify my understanding of T.A.T. and of Clement Keys. My travel to Washington, DC, was underwritten by a Silliman College Mellon Undergraduate Research Grant, and I am grateful for the support.

My junior year, Prof. Jay Gitlin and Prof. Sandy Isenstadt advised a directed reading on the history of the American airport. I wrote my final paper on the origins and history of the Jetway, or passenger boarding bridge, and my research for that paper built a sizable background for this essay. Jay has been an academic beacon and a constant source of encouragement.

During my senior year, I have been fortunate enough to take classes with Prof. Edward Cooke, Prof. Michael Denning, and Prof. John Mack Faragher, all of whom have pushed me academically. I am a better student and a more critical thinker because of their classes, direction, and advice.

Prof. Alicia Schmidt Camacho, the American Studies Director of Undergraduate Studies, suggested last year that my directed reading might yield a senior essay topic. I wasn't sure, but time has proven her correct. Myra Jones-Taylor and April Merleaux hosted the American Studies departmental colloquia that guided me, step by step, through the daunting process of writing a sixty-page paper.

It was particularly inspiring to connect with Jenifer van Vleck, who was recently awarded a Ph.D. from Yale for her dissertation on Pan American Airways. She brought a welcome familiarity with aviation history to her readings of my drafts, and this essay is richer because of her criticisms. I only regret that I will not be able to take one of her classes when she begins teaching here next year.

Prof. Jean-Christophe Agnew, my thesis advisor, has offered frequent counsel over the last year and a half. Last year, my paper on Northern Pacific Railroad for his junior history seminar, "Making America Modern," ignited my interest in the early twentieth century, transportation, and the American West, threads I have again followed

in this essay. Since August, Prof. Angew has guided this project, asking the right questions at the right times, teasing out themes, and keeping me on track. This essay has been greatly strengthened by his advice.

I want also to thank my sources. During my research at NASM, I found a letter from Paul Henderson to Clement Keys, summarizing the airline's plans as of April of 1928. "I am writing all of this not because I have any suggestion to make," Henderson wrote, "but that it seemed to me that it might be helpful to put the whole situation, as it is turning over in my mind, on paper."[†] So much of research is conjecture and supposition, sifting through letters and memoranda in the hopes of finding a pattern, that it is a relief to have someone present all the pieces, with sufficient detail and in the right order.

Outside the classroom, my friends in The Viola Question have kept me laughing. Truly, the best is yet to be. My parents, Jeff and Kathe Fraga, have been endlessly supportive of all of my endeavors.

Finally, I dedicate this essay to my late grandfather, Captain Patrick Hussey, U.S. Navy (retired). He entered the service as a Naval Aviator, so it is somehow fitting that my academic interests tend towards flight. Let's get this ship underway.

[†] Paul Henderson, letter to Clement Keys, 04/26/1928. NASM Keys, box 23, folder 16.

Introduction

In the summer of 1929 a man put his finger to a button. The man was Charles Augustus Lindbergh, the patron saint of American aviation, and the button was at one end of a Western Union telegraph circuit that connected Los Angeles to New York City. At 3:05 PM, Pacific Standard Time, Lindbergh pressed the button, then pressed it again. Three thousand miles away, in the train shed of New York City's Pennsylvania Station, a light flashed, twice. At that signal and to the cheers of thousands, a train named The Airway Limited chuffed away from the platform and began its overnight journey to Columbus, Ohio.¹ In the train's observation car were seventeen passengers, men and women, transcontinental travelers of a new age. The train was the first link in a hybrid air-rail system that would carry them across the country. Forty-eight hours later, these passengers would arrive in Los Angeles. Their journey between the two coasts would be faster than any before it.

With the push of a button, Lindbergh formally opened Transcontinental Air Transport, America's first transcontinental passenger airline. The airline would halve the time necessary to cross the continent and open a new age in passenger aviation. And, in its short history, the airline also embodied ideas about the possibilities of flight, the limitations of technology, the necessity of compromises, the power of celebrity, and the promise of national integration. Activated by Lindbergh's button, these ideas exploded outward at his push, leaving marks on the physical and cultural landscapes of America —marks that are still present today.

¹ "Lindbergh and His Bride Here" *The Los Angeles Times*, 8 Jul. 1929: 1. [ProQuest Historical Newspapers Los Angeles Times \(1881-1986\)](#), 2 Nov. 2009.

Two years earlier, in 1927, Lindbergh had climbed into a single-engine plane and taken off from a Long Island airfield on an attempt to fly across the Atlantic Ocean. After thirty-three hours, he landed in Paris, and his success thrilled Americans to the possibilities of aviation. Equally thrilled was Clement Keys, an aviation octopus in control of twenty-six different companies. After a brief courtship, the two joined forces in May of 1928 to create Transcontinental Air Transport, Inc. This venture represented a new way of thinking about aviation. Unlike airmail carriers, T.A.T. was to be an airline for passengers: It would carry them in luxury and comfort and its revenue would come solely from their fares, not from the lucrative government contracts that supported airmail. On July 7, 1929, after more than a year of planning and promotion, the airline opened at the push of a button, to national acclaim. *The Los Angeles Times* hailed the airline with the headline "Chapter Added to Aviation History."²

But a year later, T.A.T. was gone. Without the subsidy of airmail contracts, the airline lost money on every flight. Further battered by the stock market crash of October 1929, the company's directors acceded to Postmaster General Walter Folger Brown's request that T.A.T. merge with Western Air Express, an airmail carrier. On July 15, 1930, a year and eight days after Lindbergh pushed his button, the two companies gave birth to Transcontinental and Western Air. Their progeny thrived. T.&W.A. became T.W.A., Trans-World Airlines, one of the largest airlines in America and the country's *de facto* national carrier at the close of the twentieth century. T.A.T. was left a holding company, an empty shell. It dissolved in 1934.

This essay is about that forgotten airline.

² "Chapter Added to Aviation History," *The Los Angeles Times*, 8 Jul. 1929: A1. [ProQuest Historical Newspapers Los Angeles Times \(1881-1986\)](#), 2 Nov. 2009.

I make several related arguments in this paper. First, I argue that Clement Keys and Transcontinental Air Transport brought passenger service to the skies. The airline set the paradigm for passenger aviation, reassuring Americans that they could expect comfort and safety from this new—and, to many Americans, still scary—form of travel. T.A.T. partnered with the Pennsylvania Railroad and built on earlier models of passenger service—such as George Pullman's railway coaches and Fred Harvey's eating houses—to meet passengers' expectations for service. The airline marketed itself to business travelers and tourists alike, showing how different types of travelers could benefit from the speed of the airplane. T.A.T. domesticated aviation, taking it out of the realm of the daredevil pilots and into the realm of business.

Second, I argue that the importance of early domestic passenger aviation—and, in particular, the importance of Transcontinental Air Transport—has not been fully appreciated. T.A.T. flew for only a year and was overshadowed in death by its larger and more successful offspring, T.&W.A.³ But the history of T.A.T. offers critical insight into the development of American passenger aviation. T.A.T. flew passengers, and only passengers, at a time when almost all airlines shunned them.⁴ It survived without government subsidy in a crowded boom marketplace characterized by high rates of

³ In Lindbergh's many biographies, for instance, T.A.T. is mentioned only as a passing note of interest between his famous transatlantic flight in 1927 and the infamous kidnapping of his infant son in 1932. A. Scott Berg's "Lindbergh," widely regarded as Lindbergh's definitive biography, is better than most, although Berg devotes only four pages to Lindbergh's involvement with T.A.T. Other popular biographies mention T.A.T. only once. See: Walter L. Hixson, Charles A. Lindbergh: Lone Eagle. (New York: HarperCollins College Publishers, 1996.) 57. See also: James Cross Giblin, Charles A. Lindbergh: A Human Hero. (New York: Clarion Books, 1997.) 100-101.

⁴ R. E. G. Davies, Airlines of the United States Since 1914. (London: Putnam, 1972.) 80.

corporate mortality.⁵ Its organization predated government attempts to establish passenger aviation by three years, and, because T.A.T. operated independent of government subsidy, the actions of its directors followed the logic of the marketplace, not that of government incentives.

Historians usually invoke federal airmail contracts to explain the development of American aviation, and conventional histories date the rise of passenger aviation to the 1930 McNary-Watres Act. After the 1925 Kelly Act authorized the U.S. Post Office to contract with private companies to transport airmail, the McNary-Watres Act turned those contracts into policy instruments. It changed airmail payments so that they were based on the amount of space an airplane left available for airmail, not the number of pieces of airmail it carried. This new rate structure incentivized the operation of larger airplanes, which, having more than one engine, tended also to be safer and more reliable. Walter Folger Brown, the Postmaster General, granted additional bonuses to airlines that carried passengers and that equipped their airplanes with radios and navigation aids. Through financial incentives, the government hoped to encourage passenger transport on larger, safer airplanes.⁶ The Watres Act, while hugely important to the development of American aviation, tells only the story of passenger aviation as it sprang from airmail. This focus has marginalized early passenger airlines like T.A.T.—airlines that should be at the forefront of our interrogation of early passenger aviation. By understanding how aviation started, we can better understand how it operates today.

⁵ Most early airlines "either gained mail contracts or went broke; out of 77 formed between 1925 and 1932, only 17... were still operating in January, 1931." See Ronald Miller and David Sawers, The Technical Development of Modern Aviation. (London: Routledge & Kegan Paul, 1968.) 17.

⁶ F. Robert van der Linden, Airlines and Air Mail: The Post Office and the Birth of the Commercial Aviation Industry. (Lexington: UP of Kentucky, 2002.) See especially 1-61.

Still, T.A.T.'s name hid logistical legerdemain. Although air travel offered significant time savings over rail travel, aviation technology was not yet sufficiently mature to permit night flying. T.A.T. solved this by flying its passengers during the day and placing them on sleeper trains overnight, so that they could travel even while they slept. The Pennsylvania Railroad, one of the airline's partners, promoted the airline as offering "Two Days By Plane, Two Nights By Train."⁷ Rail was still king in the late 1920s, but that was changing. The number of passenger miles flown by U.S. airlines more than doubled between 1929 and 1930. Over the next thirty years, the number of passenger miles traveled by air continued to climb, surpassing the number traveled by rail in 1958.⁸ While T.A.T. did not free itself or its passengers from the rule of the rails, the airline stands as the first marker of this transition from rail travel to air, a hybrid creation that existed halfway between each mode of transport. T.A.T. recapitulated this rail-air transition even as it reproduced it.

This essay also engages with broader questions in the field of aviation history. The field has developed significantly since 1989, when James Hansen called for historians to move away from detail-oriented histories of technology and instead write "broadly synthetic, contextual, and interdisciplinary studies [that] explore the meaning of a particular field of history in terms of what it means to others."⁹ This essay builds on the work of numerous authors who answered Hansen's call, including Joseph Corn, F. Robert van der Linden, David Courtwright, and Daniel Rust, all of whom have argued that the technology of aviation can only be fully understood in a social context. This

⁷ Pennsylvania Railroad, Two Days by Plane, Two Nights by Train, [1929]. MOF Hatfield, LEV-368.

⁸ Davies, Airlines, 667, 671.

⁹ James R. Hansen, "Aviation History in the Wider View," *Technology and Culture* 30 (July 1989). 643.

shift, while important, is unfinished, and I hope that this essay furthers the understanding of aviation as a technology intertwined with society and culture.

Third, I argue that the technology of aviation furthered Americans' understanding of their country as a bounded national unit. Here, I build on the work of Benedict Anderson and Alan Trachtenberg. Anderson argues that print capitalism made it possible for people to understand themselves as members of large, interconnected communities—that it allowed them to 'think the nation.'¹⁰ Trachtenberg argues that the rise of the corporation in late 19th century America spurred social and cultural changes, resulting in a society that was more national than local, more together than apart.¹¹ Aviation advertisements traded in motifs of interconnection and incorporation, presenting the idea of a national United States shrunk by the speed of the airplane. The story of T.A.T. is partly a story about the power of technology to change how we see and order our world. This point builds on the work of Wolfgang Schivelbusch and Joseph Corn. Schivelbusch argues that the locomotive's ability to move faster than the speed of nature cleaved apart notions of time and distance, simultaneously shrinking and expanding the natural world.¹² The airplane, which flew faster than a train could travel, reproduced this change. Corn argues that Americans saw aviation as more than a mechanical technology: They saw it as the harbinger of a bright future. The transcendent nature of mechanical flight seemed to promise a new age of prosperity

¹⁰ Benedict Anderson, Imagined Communities: Reflections on the Origin and Spread of Nationalism. (New York: Verso, 1999.) 22, 44-45.

¹¹ Alan Trachtenberg, The Incorporation of America: Culture and Society in the Gilded Age. (New York: Hill and Wang, 1982.) 3-10.

¹² Wolfgang Schivelbusch, The Railway Journey: The Industrialization of Time and Space in the 19th Century. (Berkeley, CA: University of California P, 1987.) 33-44.

and peace, of unity and happiness.¹³ T.A.T. built partly on these feelings of air-mindedness.

Finally, I argue that aviation had particular power in the developing American West. Just over thirty years before Lindbergh flew across the Atlantic, Frederick Jackson Turner cast his gaze towards the Pacific and heralded the close of the American frontier. With the first word in its name, Transcontinental Air Transport broke with the regionally-focussed airmail carriers that preceded it and instead took up the mantle of manifest destiny that John O'Sullivan had knit nearly a century earlier.¹⁴ T.A.T. travelers bore west from New York until they reached the golden terminus of Los Angeles, California, and the bulk of the Transcontinental Air Transport route lay over the vast stretches of fields and deserts west of the Mississippi River.

Transportation has been widely acknowledged as an essential component of analysis for historians of the American West, but it is railroads and automobiles, not airlines, that are largely credited with tying the West into eastern centers of capital and culture and aiding the region's national integration.¹⁵ For western cities and towns, aviation offered a future: An airport was, at once, a transportation link to other places, an economic alternative to the rule of the rails, and proof that a town was up-to-date.

¹³ Joseph J. Corn, The Winged Gospel: America's Romance with Aviation, 1900-1950. (New York: Oxford UP, 1983.) 4-12.

¹⁴ John L. O'Sullivan, "Annexation," *The United States Magazine and Democratic Review* 17 (July 1845): 5-10. O'Sullivan defended annexing Texas by declaring that it was America's "manifest destiny to overspread the continent allotted by Providence for the free development of our yearly multiplying millions." 'Manifest destiny' became the belief that America was fated to expand across the continent to the Pacific Ocean.

¹⁵ On railroads, see Carlos A. Schwantes and James P. Ronda, The West the Railroads Made. (Seattle: University of Washington P, 2008.) On railroads and automobiles, see Marguerite S. Shaffer, See America First: Tourism and National Identity, 1880-1940. (Washington, DC: Smithsonian Institution P, 2001.) See also: Carlos A. Schwantes, Going Places: Transportation Redefines the Twentieth-Century West. (Bloomington: Indiana UP, 2003.) Schwantes briefly mentions the role of air transportation in the American West.

Regional aviation joined ranches to small Western cities and towns, such towns to each other, and also to the rest of the nation. Then, during World War II, the aerospace industry and the migrants it pulled west reshaped the economy and culture of the West Coast. Over the past half-century, numerous regional airlines have been founded with an exclusive focus on the West, some of which have leapt to the national fore: Southwest Airlines, Northwest Airlines, Air California, Alaska Airlines, Frontier Airlines. The twentieth century West is as much a product of the airplane as it is of the railroad or the automobile.

Aviation, as both technology and social force, offered a way to incorporate the cities and people of the distant West into the Eastern United States. T.A.T. marks the beginning of that moment.

Transcontinental Air Transport has an important place in American history, sitting as it does at the juncture of aviation history and the history of the American West. The story of T.A.T. is well-documented in its own promotional circulars and internal memoranda; in the correspondence of its president, Clement Keys; and in the correspondence of Charles Lindbergh, chair of its technical committee. Over five chapters, this essay follows the chronological story of the Transcontinental Air Transport, from its founding through its construction and operation to the forced merger that ended its existence.

Chapter 1 charts the development of aviation in America, from the Wright Brothers' 1903 flight at Kitty Hawk to Lindbergh's 1927 landing in Paris. These events and others like them spurred a widespread "air-mindedness" about the potential of air

travel in the American public. Despite this enthusiasm, aviation still smacked of danger: The sky was the realm of daredevils and barnstormers in unreliable contraptions. Lindbergh represented a counterpoint to these daredevils: He was seen as daring, but never risky, and promoted aviation as a safe, modern technology. To understand T.A.T., we must first understand the world from which it emerged.

Chapter 2 discusses the airline's founding. Keys sought to harness Americans' air-mindedness and translate it into reality. His correspondence, private writings, and memoranda offer insight into how he thought about a national, transcontinental passenger airline at a time when airlines were small, local, and directed at carrying mail. From the beginning, Keys sought to build broad support for passenger aviation by recruiting trusted public figures. He persuaded Charles Lindbergh to join the venture, and the directors that Keys brought together to serve on the airline's board came from diverse backgrounds—different industries, different cities.

Chapter 3 chronicles the construction of T.A.T. Facing a nation with few airports and little infrastructure for national air travel, T.A.T. built the infrastructure necessary for its activities almost entirely from scratch. Simultaneously, T.A.T. strove to build a mental infrastructure, a new way for the American public to understand air travel. The construction of the air route is inextricable from the construction of the airline's public image. Each process supported the other: Passengers would not fly along an unsafe route, so the airline took extra steps to make its operation safer than those of airmail lines. In national reach, logistical complexity, and technological requirements, this undertaking had precedent only in the late 19th-century construction of the

transcontinental railroads. It took more than a year of this work before the airline was prepared to fly passengers.

Chapter 4 follows the rise and fall of the airline's fortunes. The 48-hour-celebration that marked the start of passenger service in July of 1929 was, in many ways, the high point of the airline's short life. The promotional shine quickly faded. The airline failed to attract as many passengers as Keys had hoped it would and its planes routinely flew half-empty. The crash of a T.A.T. plane in September dampened passenger demand, as did the stock market crash in October of 1929. By the end of its first year, T.A.T. was losing money on every flight, and its financial position was no longer sustainable.

Chapter 5, the essay's coda, discusses the airline's end and its legacy. For many Americans, the nature of air travel—the airplane's speed and altitude above the Earth—made the country feel smaller. T.A.T.'s transcontinental reach was especially important in the West, where air travel put the cities and destinations of the West within reach of Eastern businessmen and tourists. These ideas—incorporation, interconnection—each outlasted the airline and appeared in aviation advertisements again and again over the following two decades.

Over the first half of the twentieth century, the duration of a transcontinental journey shrank ever-shorter: It took forty-eight hours to cross the country, then thirty-six, twenty, thirteen, ten. In the 1960s, the introduction of commercial jet travel shrunk the country yet again, shortening transcontinental flights to five hours.¹⁶ But even as Lindbergh's button summoned the future, it recalled the past. Sixty years before he

¹⁶ Davies, *Airlines*, 670.

pushed it, in 1869, two crews from the Union Pacific and Central Pacific railroads met in the Utah desert to drive the final spike of the first transcontinental railroad, uniting the country as it had never been united before.¹⁷

Lindbergh's button, sitting as it does between these moments, contained the seeds of the future, harvested from the dreams of the past. With its depression, a new, smaller, faster world was created. We live today in the shadow of that moment, in a world birthed from a button.

¹⁷ "The Pacific Railroad," *The New York Times*, 12 May 1869: 1. [ProQuest Historical Newspapers The New York Times \(1851-2006\)](#), 02 Apr. 2010.

1. The Rise of Airmindedness, or: "First within the continents."

A Scotchman and his wife were spending a vacation at the shore near an aviation field. One day the couple went over to the field and asked: "How mooch do you charge for the ride?" "Fifteen apiece [\$200 apiece] for ten minutes," was the reply. After much arguing they reached an agreement: should the passengers speak even once during the trip the fare would be fifty dollars [\$650]; if they kept silent, it would be free. The couple got in and were soon in the air. Up they went to ten thousand feet then came a loop-the-loop—and not a word. A vertical bank, a tail slip and a nose dive brought no sound. In despair, the pilot landed and said to the Scotchman, "Well, you win." "But there was once when I nearly spoke," replied the passenger. "When was that?" was the question. "When my wife dropped out."
— "The Price He Paid," *Harper's Monthly Magazine*, 1922 ¹⁸

It is a hard, cold, calculating job to turn the air into a medium of commerce.
— C. M. Keys, on the prospects of commercial aviation in the United States, 1925 ¹⁹

In 1903, on a sandy barrier island off the coast of North Carolina, two brothers flung an improbable invention into the air, where it wobbled, steadied, and supported itself and its cargo on nothing at all. The Wright Flyer soared over the dunes of Kitty Hawk for twelve long seconds before it fell back to the earth, in a flight that proved the feasibility of manned heavier-than-air flying craft and opened a new frontier of exploration: the sky.

Over the next two decades, the technology that the Wright brothers midwived at Kitty Hawk was developed and advanced by countless inventors and boosters. It quickly found a place in the national consciousness.²⁰ But aviation was seen as the realm of risk-takers, barnstormers, daredevils: An extreme sport not appropriate for the general public. This was the world before Transcontinental Air Transport. Investors like C. M.

¹⁸ "The Price He Paid," *Harper's Monthly Magazine*, Dec. 1922: 134. <http://harpers.org/archive/>, 22 Feb. 2010. Prices in this essay have been translated into 2010 dollars using the inflation calculator offered by the U.S. Bureau of Labor Statistics. The equivalent prices are presented in parenthesis or brackets. See: <http://data.bls.gov/cgi-bin/cpicalc.pl>.

¹⁹ Clement M. Keys, memo to *The Independent*, 03/05/1926. NASM Keys, box 22, folder 5.

²⁰ The story of early American aviation has been told by many people and in many places. This section endeavors not to recapitulate their work, but to briefly summarize the decades before Lindbergh's flight.

Keys and Daniel Guggenheim sought to tilt aviation away from spectacle and towards reliable use, but it was Charles Lindbergh who, with an improbable flight across three thousand miles of ocean, demonstrated the potential of aviation to connect distant places and ignited a new fascination with the technology of flight. Lindbergh's national air tour the following year introduced Americans to a new, safer, domesticated version of flight and opened the door to passenger aviation. This chapter traces the interplay between aviation's technological and social sides and follows the arc from danger to domestication.

The Wrights' accomplishment seemed so wildly impossible that it was at first disbelieved.²¹ They sent news of their accomplishment—four flights that day, the last and longest of which was nearly a minute—to their parents in Dayton, Ohio. Their parents were were thrilled. The newspapers yawned. The telegraph editor at one of the Dayton papers breezily dismissed the flight. "Fifty-seven seconds, hey? If it had been fifty-seven minutes then it might have been a news item."²² The public proof came five years later, in 1908, in front of a crowd of Army officers and newspapermen on a parade ground outside of Washington, DC. "When the plane first rose, the crowd's gasp of astonishment was not alone at the wonder of it," wrote Theodore Roosevelt, Jr., in a report to his father, President Roosevelt, "but because it was so unexpected."²³ The following year, The Wright Company was founded, and the brothers turned to building and selling airplanes.

²¹ Fred C. Kelly, The Wright Brothers. (New York: Harcourt, Brace and Company, 1943.) 116. Scientists and physicists, notably Simon Newcomb, had published numerous articles in the popular media proving that heavier-than-air flight was impossible, as it violated the laws of physics.

²² Qtd. in Kelly, Wright Brothers, 107

²³ Qtd. in Kelly, Wright Brothers, 227.

Entrepreneurs were quick to latch on to aviation's commercial potential. In 1911, three years after the Wrights' public demonstration, a pilot named Cal Rodgers set out on the first transcontinental flight. Rodgers' flight was a corporate gimmick sponsored by the Armour Meat Packing Company of Chicago and the plane was named the *Vin Fiz Flyer* after the company's new grape soft drink. It took Rodgers 49 days to travel the four thousand miles between New York and Los Angeles. Thousands of Americans gathered to see Rodgers and his airplane at each of his more than 70 stops, and the flight made him a national celebrity, but there was little practical about his trip. The *Flyer* was slow, dangerous, and unreliable—no challenge to the trains that took a mere week to cross the country.²⁴

The airplane's military potential was realized during World War I. Airplanes were unique in their ability to pierce the dark clouds of war that loomed over Europe in 1914, giving commanders and tacticians new views of battlefields and offering new methods of attack. The demands of warfare incubated aviation technology, encouraging the development of faster, more powerful, and more reliable airplanes; the war also swelled the ranks of trained pilots. Following the armistice in 1918, American airfields were flooded with war-surplus airplanes. Many freshly discharged pilots turned to barnstorming. Barnstormers performed mock dogfights and aerial stunts, but also offered short rides—five dollars for five minutes, giving people the chance to see their hometown from the air or just to experience flight. Each short ride built up public air-mindedness, passenger by passenger.²⁵

²⁴ Daniel L. Rust, Flying Across America: The Airline Passenger Experience. (Norman, OK: University of Oklahoma P, 2009.) 5-7

²⁵ David T. Courtwright, Sky as Frontier: Adventure, Aviation, and Empire. (College Station, TX: Texas A&M UP, 2005.) 39-50. For more on WWI and on barnstormers, see chapter 3, "Gone West."

The first enduring practical use for aviation was airmail. After a series of experimental runs, the U.S. Post Office launched America's first regular airmail service in 1918. In *Airlines and Air Mail*, historian F. Robert van der Linden argues that "American commercial aviation was largely the creation of the federal government," which indirectly subsidized the fledgling industry through airmail contracts offered by the Post Office. The Post Office invested public funds in aviation in the interest of improving its service, particularly the speed of the mail. In 1919, recognizing that the "time savings afforded by the speed of aircraft could be realized only over long distances," the Post Office opened an airmail route between New York and Chicago. By 1920, the airmail route bridged the continent, connecting San Francisco and New York. By 1925, the Air Mail Service was "a flourishing government enterprise... proving every day and night that aviation was no longer the realm of the foolhardy, but a viable, though still infant, industry."²⁶ Airmail was a sober counterweight to the spectacle of barnstormers and offered a permanence that they lacked.

Whether practical or spectacular, the seeming miracle of flight captured the public imagination. "What more astounding romance could there be than the story of Icarus' dream and Leonardo's patient diagrams, and then that triumphant leap into the air by the modest and undiscourageable Wrights?" asked *Harper's Monthly Magazine* in 1926. "It is as a symbol of persistent human will that the airplane has its highest meaning for us; long chained, like Prometheus, to the earth, we have freed ourselves at

²⁶ van der Linden, *Airlines and Air Mail*, 3-8.

last, and now we can look the skylark in the face."²⁷ To understand flight was to see the world in a new way, a perspective termed air-mindedness.

Air-mindedness emerged from the awe people felt when they first saw demonstrations of heavier-than-air flight: "Airplane flight was 'miraculous,' 'inhuman,' 'occult,' or most commonly a 'miracle.'" To be air-minded "meant having enthusiasm for airplanes, believing in their potential to better human life, and supporting aviation development," writes historian Joseph Corn in *The Winged Gospel*, his history of air-mindedness.²⁸ While the air-minded could attend air shows, follow Rodgers' flight, send letters by airmail—even go up for a short ride themselves—it was rare that they used traveled as passengers aboard airplanes. The essential contradiction of early aviation is that even while everyone, it seems, wanted to fly, relatively few people actually flew. As historian Robert Wohl has written:

In comparison with other technologies, such as electricity, the telephone, the automobile, the cinema, or the radio, the airplane had little or no immediate or direct impact on the way that most people lived their lives; yet its invention nonetheless inspired an extraordinary outpouring of feeling and gave rise to utopian hopes or gnawing fears.²⁹

Public feelings towards early aviation resembled contemporary feelings towards space flight: Each flight was a thrilling yet distant prospect and something one was unlikely to experience personally. The technology seemed limitless and each new aviation success, each novel use, reinforced popular beliefs in air-mindedness. In the spring of 1927, a lone airmail pilot, with a single flight, caught Americans' attention and caused interest in aviation to climb even higher.

²⁷ Will Durant, "Is Progress a Delusion?" *Harper's Monthly Magazine*, Nov. 1926: 742-751. <http://harpers.org/archive/>, 22 Feb. 2010.

²⁸ Corn, *Winged Gospel* 12, 4.

²⁹ Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918*. (New Haven: Yale UP, 1994.) 1.

Charles Lindbergh took off from a Long Island airfield on May 20, 1927, to attempt a transatlantic flight. Like so many Americans, Lindbergh was air-minded: He believed that airplanes could carry more than airmail and his flight was partly inspired, he later wrote, by his desire to establish aviation "as a common means of transport."³⁰ During the flight, he wrote, he came to see his airplane as "a lens focused on the future, a forerunner of the mechanisms that would conquer time and space." Eventually, Lindbergh believed, the airline would come to replace the railroad.³¹ Lindbergh succeeded in his attempt: Thirty-three-and-a-half hours after he took off from Long Island, the wheels of the *Spirit of St. Louis* bumped down on French soil at Le Bourget Airport, just outside of Paris. "Lindbergh Does It!" blared *The New York Times* in a three-line banner headline across its front page (see Figure 2).³² "American Eagle Swoops Down From Inky Sky," read the front page of *The Atlanta Constitution*.³³ The excitement was palpable: Lindbergh was catapulted into the public eye and his name, life story, and deeds became instantly familiar to almost every American. Constant radio, newspaper, and film coverage made Lindbergh the best-known American of the late 1920s—the country's first media darling.

In order to make the most of the aviation frenzy that Lindbergh ignited, the Guggenheim Fund asked him to undertake a three-month-long national air tour "for the primary purpose of stimulating popular interest in the use of air transport." The

³⁰ Charles Lindbergh, *Autobiography of Values*. (New York: Harcourt Brace Jonanovich, 1976.) 70.

³¹ Lindbergh, *Autobiography*, 78.

³² "Lindbergh Does It! To Paris In 33 1/2 Hours," *The New York Times*, 22 May 1927: 1, [ProQuest Historical Newspapers The New York Times \(1851-2006\)](#), 2 Nov. 2009

³³ "American Eagle Swoops Down From Inky Sky and Lindbergh Lands on Paris Flying Field," *The Atlanta Constitution*, 22 May 1927: 1, [ProQuest Historical Newspapers Atlanta Constitution \(1868-1945\)](#), 2 Nov. 2009.

Guggenheim Fund was a not-for-profit investment fund whose goal was "to make our people air-minded and to demonstrate that flight could be and was a safe, practical method of transportation, that pilots could adhere to schedules and that distance could be divorced from time." Interest in Lindbergh's flight, the fund's trustees hoped, would stimulate the use of air services such as airmail or aerial photography, directly supporting the industry, and that it would translate into support for airport construction.³⁴

Lindbergh spent his aerial tour trying "to convince everyone who would listen that aviation had a brilliant future."³⁵ Everyone did: Americans turned out in droves. Most Americans lived within fifty miles of his route; one-quarter of the American population—an unprecedented thirty million people—saw him in person.³⁶ Lindbergh flew the *Spirit of St. Louis*, the same plane he had taken across the Atlantic, more than 22,350 miles, stopping at 82 cities and delivering 147 speeches.³⁷

If earlier iterations of air-mindedness built on vague utopianism, Lindbergh turned air-mindedness upside down by demonstrating aviation's concrete uses. As *The New York Times* wrote a year after his transatlantic flight, "when the excitement had died down a stark fact remained—the airplane had been proved as a practical means of communication over long distances."³⁸ This use was bound up in the very structure of Lindbergh's tour as he hopped from town to town. He gave speeches, dedicated airports, and allowed Americans to bask in his celebrity, then zipped to the next town or

³⁴ Reginald M. Cleveland, *America Fledges Wings: The History of the Daniel Guggenheim Fund for the Promotion of Aeronautics*. (New York: Pitman Publishing Corporation, 1942.) 93, 7.

³⁵ Lindbergh, *Autobiography*, 66-67.

³⁶ Berg, *Lindbergh*, 168-170.

³⁷ Cleveland, *America Fledges Wings*, 99.

³⁸ Russell Owen, "Lindbergh Leading, Aviation Sweeps On," *The New York Times*, 20 May 1928: 143 *ProQuest Historical Newspapers The New York Times (1851-2006)*, 2 Nov. 2009.

city to repeat the process. The only way he could visit the entire country was by air.

Lindbergh wasn't just painting an image of the future—he was living it.

Air-mindedness was a national phenomenon, a fact that Lindbergh's tour threw into sharp relief. He was a constant media presence after his transatlantic flight and his actions, no matter how small or quotidian, were recounted in newspapers, in magazines, in newsreels, making him a household name and a national brand. To share in his celebrity was to share in a national experience, similar to that of print capitalism. Benedict Anderson has written: "These fellow-readers, to whom they were connected through print, formed, in their secular, particular, visible invisibility, the embryo the nationally imagined community."³⁹ Now, fellow-participants could be connected to each other through national celebrities like Lindbergh, growing the embryo and reinforcing the idea of a nationally imagined community.

From this national platform, Lindbergh pushed Americans to build new airports or improve existing ones. While his tour had overtones of nationalism, his message was solidly local. Domestic infrastructure, he contended, would be key to the development of aviation. "It seemed obvious to me," Lindbergh wrote decades later, "that the development of airlines would be made in three stages. First within the continents; then between the continents; finally across the oceans from hemisphere to hemisphere."⁴⁰ He had become famous for flying across an ocean, yes, but if aviation was to benefit Americans, it had to be local and accessible: It had to start in their backyards and grow up from there. "I believe," Lindbergh wrote, "that the best way to promote aeronautics in a given locality is to establish a well-equipped airport. The city will then be visited

³⁹ Anderson, *Imagined Communities*, 44.

⁴⁰ Lindbergh, *Autobiography*, 83.

frequently by aircraft, thus allowing its citizens to become accustomed to the sight and performance of these modern means of transport."⁴¹ As people gained personal experience with aircraft, Lindbergh believed, they would become more comfortable with them, even comfortable enough to fly. The technology would seem less distant and more domestic.

An airport could also connect a city to the rest of the nation—and to new economic opportunities. "Any city can work wonders with respect to its transportation problem," Lindbergh wrote, "by merely establishing an airport and using airplane services wherever possible." By delicately alluding to the 'transportation problem,' Lindbergh acknowledged the predicament faced by so many towns across the West: A western town's fortunes depended on its access to the railroad.⁴² For many towns, being consigned to a branch line meant diminished fortunes; being bypassed by the railroad meant almost certain death.

In St. Louis, Lindbergh's hometown, the call for airports resonated. City leaders, perhaps still smarting from Chicago's victory in the 1850s to be the railroad hub for the West, "felt that the city must provide the facilities for an efficient air service if it is to be prominently placed on the map of aerial routes such as are certain to be designated within the near future," wrote *The New York Times* in 1928, a year after Lindbergh's transatlantic flight. Citizens in St. Louis believed that in order to maintain their economic dominance as a city of trade and a "gateway to the west and southwest," it was necessary to fully commit to the technology of flight. The construction of an airport was a duty of the municipality, carried out in its mission of civic promotion. Within a year,

⁴¹ Qtd. in Cleveland, *America Fledges Wings*, 96.

⁴² See Schwantes, *Going Places*, 48-87.

these citizens hoped, "air lines for passengers, mail, freight, and express will radiate from this city, supplementing, if not supplanting, the rail lines that now connect St. Louis with other parts of the country."⁴³ An airport, literally and cartographically, would connect St. Louis to the rest of the America. By "supplanting" rail, it could also connect the city to the future.⁴⁴

At St. Louis and in cities and towns across the country, Americans heeded Lindbergh's call for airports. By 1931, America had twice as many airports and landing fields as it did before his tour. A third of these were lighted, permitting operations at night. Moreover, by his very presence, Lindbergh changed how people regarded their local airports. He personified a new kind of aviation, one that was modern, safe, and reliable. (The way he carefully and methodically planned for his transatlantic flight had been widely reported, and Lindbergh, while daring, was not seen as a taker of unnecessary risks.) Local airports, long the realm of daredevils and wing-walkers, came to be seen as "gateways to a prosperous future."⁴⁵ Americans flocked to these gateways: 1928 saw a 300% increase in applications for pilots' licenses and a 400% increase in the number of licensed aircraft.⁴⁶

At the same time, Lindbergh's tour changed how he saw his country. It filled out his mental map of America with images of real, discrete places and gave him a way to

⁴³ Louise La Coss, "St. Louis Has Plan for 'Aviation Day,'" *The New York Times*, 04/01/1928: 56. ProQuest Historical Newspapers *The New York Times* (1851-2006), 2. Nov. 2009.

⁴⁴ From its earliest days of trading and trapping, St. Louis has long been the gateway to the West. City leaders' faith in aviation in 1928 was returned the following year, when the city was included on T.A.T.'s transcontinental route. St. Louis later served as headquarters and as a primary hub for T.W.A., T.A.T.'s successor, from the 1980s until 2001, when T.W.A. was purchased by American Airlines. For more on St. Louis's early role as gateway to the West, see Adam Arenson, *City of Manifest Destiny: St. Louis and the Cultural Civil War, 1848-1877*, Diss. Yale U, 2008.

⁴⁵ Gordon, *Naked Airport*, 25.

⁴⁶ Berg, *Lindbergh*, 171.

weave unique local threads into a bolt of national cloth.⁴⁷ At the conclusion of his tour, Lindbergh wrote, "the United States was represented by a new image in my mind. Instead of outlines on a paper map, I saw New England's valleys dotted by white villages, the crystal waters of Michigan's great lakes, Arizona's pastel deserts, Georgia's red cotton fields, the cascades and deep forests of the Oregon Northwest."⁴⁸ The airplane's altitude positioned Lindbergh to see these places, but it was his geographic literacy that enabled him to understand and describe them.⁴⁹ Geographic literacy was newly common among Americans. As historian Susan Schulten notes, "The early twentieth century brought a slow and steady stream of Americans into contact with maps and atlases. Geography was gradually becoming not just a school subject or a reference tool, but a cultural commodity as well."⁵⁰ Americans followed the battles of World War I in atlases. They used gas station maps to navigate on road trips. Maps were especially handy for following record-breaking airplane flights, like Lindbergh's flight across the Atlantic or Admiral Richard Byrd's flight over the North Pole. Geography was doubly linked to air-mindedness: First, through the near-cartographic perspective of

⁴⁷ I am indebted to Jenifer van Vleck for this impeccable image.

⁴⁸ Lindbergh, *Autobiography*, 81.

⁴⁹ The geographic literacy obtainable in the air was of strategic importance during World War I. See Courtwright, *Sky As Frontier*, especially chapter 3, "Gone West." But an aerial perspective was also a valuable tool for archaeology. Lindbergh conducted numerous archaeological survey flights of the American Southwest and of Latin America in the 1920s and 1930s. In Britain, O.G.S. Crawford served in the Royal Flying Corps during World War I and later demonstrated the benefit of aerial photography to archaeology. For more on Crawford, see: Kitty Hauser, *Bloody Old Britain: O.G.S. Crawford and the Archaeology of Modern Life*. (London: Granta UK, 2008.)

⁵⁰ Susan Schulten, *The Geographical Imagination in America, 1880-1950*. (Chicago: University of Chicago P, 2001.) 202. Aviation profoundly altered Americans' understandings of geography, as Schulten notes (see p.133-143 and the section entitled "Aviation, War, and the Politicization of Space"). Jenifer van Vleck also teases out the relationship between aviation and geography her 2009 dissertation. See: Jenifer van Vleck, "No Distant Places: Aviation and the Global American Century." (Diss. Yale U, 2009.) Both authors argue that the airplane, unconstrained by international borders, allowed people to understand the world in borderless terms.

an airplane's altitude, where, from above, the land looked like a map. And second, the airplane re-oriented popular understandings of space and distance. To fly was to be loosed from geography: For the first time, it was possible to travel as the crow flies.

After his tour, it seemed as if aviation and Lindbergh were one and the same, so that to speak of a world made by air travel was to speak of a world made by Lindbergh himself, swept up and carried in his arms. Although Lindbergh was in many ways the father of American passenger aviation, although he opened the skies and called forth a new world, it is more accurate to see him as a fulcrum, a spark, a catalyst for the energetic acceptance of flight and a central lens that focussed the raw enthusiasm of the American public. He was heir to a broad social and technological legacy that began with the Wright Brothers at Kitty Hawk, developed at the nation's air shows and on flights like that of the *Vin Fiz*, matured in the skies above Europe and along airmail routes, and was nudged along by financial backers like the Guggenheim Fund. Lindbergh did what pilots do: He flew. But he did not fly alone.

On April 30, 1928, at the conclusion of his national tour, Lindbergh retired the *Spirit of St. Louis*, donating the airplane to the Smithsonian Institution.⁵¹ He had flown the airplane across an ocean and all over the country and it had been his companion for just over a year. When he left his plane in Washington, DC, he left also the idea that aviation was for aviators, lone men and women flying through the night in open-cockpit wood-and-fabric constructions. The airplanes of the future would carry a different type of men and women: passengers. Lindbergh had demonstrated that an airplane could be useful, that it could be flown without inordinate risk, and then brought his famous plane

⁵¹ Lindbergh, *Autobiography*, 96.

to the hometowns of millions of Americans—close enough to touch. In a way, Lindbergh brought aviation down to earth. And on the ground was exactly where C. M. Keys, aviation magnate, thought the industry should be.

2. The Creation of an Airline, or: "90% of aviation is on the ground."

The building is probably so full of presidents that the novelty has worn off for the elevator boys. We doubt if they are much thrilled by C. M. Keys, a slight, quiet man who has offices on the fifteenth floor and who is president of a number of things, including the Curtiss Aircraft Corporation and, more recently, the corporation which plans to get travelers from here to Los Angeles in forty-eight hours by a series of plane and train rides. Mr. Keys looks like a teacher and, oddly enough, used to be one.

– *The New Yorker's* Talk of the Town, June 16, 1928 ⁵²

I am firmly convinced that the evolution of passenger transport will not follow exactly the course followed in the case of the airmail.

– Clement Keys, February 1929 ⁵³

Clement Keys believed that passengers were the future of the aviation industry. He was one of the few that did. The established airlines shunned passengers, viewing them as more expensive and more difficult to transport than airmail. Keys took a different tack. It was only a matter of time before some entrepreneur sought to capitalize on this gap in the marketplace, so why not him? He proceeded methodically, putting together a new company piece by piece. "90% of aviation is on the ground," he was fond of saying. Keys recruited Charles Lindbergh, brought together a diverse and talented board of directors, and raised millions of dollars in capital. (For images of Keys and Lindbergh, see Figure 1.) The company, Transcontinental Air Transport, was an experiment—an expertly prepared, well-financed experiment, but an experiment nonetheless. Keys' correspondence, speeches, and memoranda offer a window into the airline's founding. To look back at his early thoughts on T.A.T. is to see the world as he saw it and to understand aviation as he did.

⁵² James Thurber, "Lindbergh's Boss," *The New Yorker*, 16 June 1928: 16-17. www.newyorker.com/archive, 02/22/2010.

⁵³ Clement M. Keys, "What the Rail-Air Business Means," *Pennsylvania Railroad Information*, Philadelphia: 1929. NASM Keys, box 22, folder 5.

Keys was born in Canada in 1876 and attended the University of Toronto. He graduated in 1897 at the age of 21 and briefly taught classics; in 1901, he moved to New York City and became a reporter for *The Wall Street Journal*.⁵⁴ In 1903, he became the *Journal's* railroad editor, and developed an affinity for the "well-organized, vertically integrated, railroad-holding companies," whose directors he saw as "true industry pioneers who built huge, well-run enterprises that benefited the economy and served the public interest."⁵⁵ In 1905, he became the financial editor for *World's Work*, a monthly magazine that celebrated American life and "the cheerful spirit of men who do things."⁵⁶ He stayed with the magazine until 1911, when he founded his own investment consulting firm, C. M. Keys & Company. Through his work there, he developed connections with many of Wall Street's prominent financiers.

Keys caught the aviation bug in 1919, when he traveled to Europe with the American Aviation Commission to examine the state of European aviation in the wake of World War I. As a financier, he had revived the Curtiss Aeroplane and Motor Company; on his return to the United States, Keys purchased a controlling interest in Curtiss and brought the company back to profitability. He made the cause of aviation his own and aimed to emulate the organizational and managerial strategies of his beloved railroads by applying their methods to the fledgling aviation industry.⁵⁷ By 1927, Keys sat at the center of a small empire built of interrelated, vertically-integrated aviation businesses, all of which he headed or controlled. A list prepared in 1930 of Keys's corporate

⁵⁴ "Biographical Note," *Clement Melville Keys Papers*, Smithsonian National Air and Space Museum. <http://www.nasm.si.edu/>, 07 Apr. 2010. There is not yet a definitive biography of Keys's life.

⁵⁵ van der Linden, *Airlines and Airmail*, 21-22.

⁵⁶ Walter Hines Page and Arthur Wilson Page, "The March of Events," *The World's Work*, Nov. 1900: 1.

⁵⁷ van der Linden, *Airlines and Air Mail*, 21-22

involvement listed 26 companies, involved in areas as diverse as aviation finance, import/export, pilot training, airplane design and construction, airmail delivery, and the construction of gyroscopes.⁵⁸

Keys was forward-looking in the way that businessmen often are: To profit from the future, you must first predict it. He staked his claim on aviation in 1925 with the unequivocal statement that "organized commercial aviation will win." In that year, he looked ahead, as if from the cockpit of an airplane, and predicted that:

The scattered individual flyers who have been making a living will probably diminish as the supply of cheap war equipment disappears from the market. Organized transportation companies will take their place. It will take a year or two of organized flying to determine at what rates and under what conditions, year in and year out, the movement of traffic can be maintained profitably. This determination involves the use of a lot of experimental equipment, the training of men and the establishment of efficient and cheap terminal services. It is my judgement, which I have backed with capital, that the verdict at the end of a year or two will be that the thing can be done.⁵⁹

This was a strong statement in 1925, when aviation seemed a trifle and there were three commercial operators in the entire country.⁶⁰ But Keys took a long view and saw aviation not for what it was, but for what it could be. He doubted that organized aviation would be an immediate success, but if carefully planned and properly run, an airline might be able to succeed. It is especially significant that Keys—a financier, well-versed in risk—would note that he had backed these opinions with capital. He was not merely musing on the possibilities of aviation, but making a case for a new industry.

⁵⁸ "Aeronautical companies with which MR C M KEYS is affiliated, either as an Officer or Director," 01/09/1930. NASM Keys, box 18, folder 26.

⁵⁹ Keys, memo to *The Independent*, NASM Keys.

⁶⁰ Davies, *Airlines*, 582. The Seattle-Victoria Air Mail Line, the Gulf Coast Airline, and Pacific Marine Airways were America's three commercial airlines in 1925. The first two carried mail under Foreign Air Mail (FAM) contracts. Pacific Marine Airways carried passengers between Los Angeles and Avalon, a resort 34 miles away on the island of Santa Catalina. These airlines flew only flying boats.

What might this industry look like? The success of aviation, Keys wrote, "turns upon the ability to transport safely over long distances, in all kinds of weather, by day or by night, the tonnage that is available, at a cost that is not prohibitive."⁶¹ This set of criteria—so familiar to the contemporary pilot or passenger that they typically go without notice—reveal Keys to be a visionary. Before 1925, the commercial aviation industry was loosely organized and poorly regulated, composed largely of itinerant barnstormers in small, aging planes. They didn't fly long distances, avoided weather and darkness, and flew for show, not transport. The 1925 Kelly Act allowed the government to contract airmail services with private operators, and its passage caused a scramble to organize proper airlines flying modern equipment over fixed routes. The airmail lines were occasionally stymied by weather or darkness and their planes only needed to be safe enough that a single pilot could bail out before a crash. This was an inefficient approach and one that did not scale well to flying passengers. (Proposals that passengers be equipped with individual parachute were ultimately deemed unfeasible.) Airplanes would have to be made safer and more reliable if aviation was to be a consumer industry.

Keys's emphasis on affordability is especially revealing. He took a realistic view of air-mindedness. "Patriotism on the part of the public—in the form of a desire to see lots of airplanes flying in the United States—helps the promoter to promote," he wrote, "but it soon fades when it has to take the form of paying for service that does not pay the patriot in dollars and cents."⁶² Awe, in other words, didn't pay the bills, and aviation would have to be affordable if it were to succeed. Keys approached the question of cost as a businessman, not an engineer, by asking what consumers would pay for, not what

⁶¹ Keys, memo to *The Independent*, NASM Keys.

⁶² Ibid.

was possible. He may have been able to win passengers' confidence, but he would also have to win their wallets. Keys's criteria—safety, reliability, affordability—were tall demands, beyond the limits of aviation technology in 1925. Still, they would be his watchwords, and they would guide his thinking as he organized his aviation dealings.

If Keys was right, if airplanes became safer and more reliable and travel became more affordable, then he foresaw a bright future for aviation.

If this conclusion is correct the real establishment of commercial aviation in the United States will take place about the year 1928. From that date its growth will be very rapid, for there is never any lack of capital, of men, or of material in the United States to carry forward any branch of transportation after the initial process of study and experiment has demonstrated its commercial feasibility. In that case it would be practically assured that within a reasonable time the United States will take its proper place among the air minded nations — and that, after all, is the thing we are striving at.⁶³

Keys's view was informed by history: The railroad and the automobile, both of which had begun as awkward, experimental technologies, quickly developed into large, multi-million dollar consumer industries. If the uses of the airplane could be riddled out and demonstrated, Keys believed, then business and capital would follow. Despite his cautions and caveats, Keys was air-minded. He had become an American citizen in 1924 and believed that airplanes would change the country for the better. An airplane was, in some sense, more than just a technology or a business opportunity, it was a way to prove the ascendancy of the United States to the rest of the world.

His suggestion of the year 1928 would prove prescient. Although Keys didn't yet know it, that was the year he would found a transcontinental passenger airline. It was something he had been considering for a long time. As early as 1925, Keys seemed to be thinking both about a transcontinental airline and about launching passenger service. After the 1925 Kelly Act provided for the transportation of airmail by Post Office

⁶³ Ibid.

contractors, Keys founded National Air Transport, an airmail line, to bid for the New York-Chicago contract.⁶⁴ At the same time, N.A.T. courted Western Air Express, which was bidding for the Chicago-San Francisco airmail contract, in the hopes that the two airlines could together enter a joint bid for the entire transcontinental route. Western's president declined the offer.⁶⁵ But the tantalizing idea of a transcontinental passenger airline reappeared in 1926, when executives at the Pennsylvania Railroad approached Keys and N.A.T. with a proposal for a New York-Los Angeles air-rail line. Nothing seems to have come of that, either.⁶⁶ Regardless of when or where the idea originated, the essential thing is this: For a man like Keys, steeped in the world of aviation, the next, unrealized step must have been to link the coasts.⁶⁷ On passenger aviation, Keys wrote: "I believe that, while passenger transportation is still purely experimental and cannot be regarded as anything but that, it will arrive in time."⁶⁸ That time, he knew, was coming. Could a transcontinental passenger airline be far off? It was in this state of mind that Keys regarded Lindbergh's famous 1927 flight.

As the world buzzed with news of Lindbergh's transatlantic triumph, Keys composed a letter to the young aviator, offering him a role, any role, in the creation of

⁶⁴ See Davies, Airlines, 58-63 and van der Linden, Airlines and Air Mail, 17-34.

⁶⁵ Davies, Airlines, 60-61.

⁶⁶ van der Linden, Airlines and Air Mail, 38-39.

⁶⁷ Keys opened his first letter to Lindbergh with the line "The undersigned have been engaged in a great undertaking during the *last few years*, seeking to establish a truly national air transport service," so Keys could well have regarded N.A.T. as the first step towards a transcontinental airline. (Emphasis added.) Additional archival research may yield a definitive answer. See: Clement M. Keys and Harold Coffin, letter to Charles Lindbergh, 06/14/27. MSSA Lindbergh, MS325, series III, box 102, folder 251.

⁶⁸ Clement M. Keys, letter to Harry Chandler, 11/07/1928. NASM Keys, box 24, folder 1.

"the first great passenger trunk line of the country."⁶⁹ Keys, a former newspaperman, knew a good story when he saw one: Lindbergh was young, dashing, and had just become the face of aviation. Lindbergh had incredible name recognition and, Keys realized, could easily parlay his celebrity into a brand. Thus, it was important to Keys that Lindbergh be actively and centrally involved in the airline. Keys offered him "the Presidency or any official position which you may choose," at a salary of Lindbergh's choosing, with a board of directors of his composition, for an airline with his name on it: "Lindbergh National Lines, or some similar name to suit your wishes." Keys and his partners would "underwrite all of the capital that is necessary to carry on this enterprise."⁷⁰ The letter is dated June 14, 1927, the day after Lindbergh was received in New York City with a ticker-tape parade in celebration of his transatlantic flight.⁷¹ Lindbergh, awash in similar offers and requests for endorsement, did not respond to the letter. He may have been overwhelmed; he may not have been interested; he may not have taken the offer seriously. But Keys was interested, and Keys took Lindbergh seriously.

⁶⁹ Keys and Coffin to Lindbergh, 06/14/27, MSSA Lindbergh. Note that my chronology differs from that established by van der Linden in "Airlines and Air Mail." Van der Linden points to the offer extended by the Pennsylvania Railroad in 1926 as the seed that contained T.A.T., then leaps forward two years to April of 1928, when he writes that "Keys's ideas began to take shape." (See van der Linden, *Airlines and Air Mail*, 38-43.) This narrative leap takes van der Linden past Lindbergh's flight, and Lindbergh returns in van der Linden's narrative only after T.A.T. has been formally incorporated. In my view, this 1927 letter to Lindbergh is the earliest definitive mention of the transcontinental airline that would become T.A.T. Further, Lindbergh's involvement in the airline from its beginning substantially changes our understanding of T.A.T.'s relationship with the public, as I argue in my next chapter.

⁷⁰ Keys and Coffin to Lindbergh, 06/14/27, MSSA Lindbergh.

⁷¹ After Lindbergh's arrival in Paris on May 21st, he spent time touring Europe before sailing for the United States. He arrived at Washington, DC, on June 11th and was received in New York City on June 13th.

Two weeks later, Keys's lawyer, Chester Cuthell, reiterated the offer in a second letter to Lindbergh.⁷² Lindbergh telephoned Cuthell on July 14 to decline the offer, but he soon reconsidered and telephoned again on July 26 to talk further. The next day, in response to Lindbergh's concerns and after conferring with some of Keys's advisors, Cuthell sent Lindbergh a third letter, outlining a greatly revised plan for the company.

In the final schema, Lindbergh's managerial role in the company was greatly reduced, a recognition, Cuthell wrote, that the earlier proposals "would not be attractive to you because they would confine you too closely to the detailed task of operating a regular service."⁷³ Instead of an executive position, Lindbergh would focus on two things: choosing equipment and studying possible routes.⁷⁴ Both involved flying. Where before Keys and his cohort had sought to tempt Lindbergh with fame and wealth, they here took the opposite tack, offering him freedom to define his own place in the company. Cuthell assured Lindbergh that his position

would not tie you down to desk work or even the details of operations; that your work would be of a free lance character; it would be based primarily on development of new ideas and that you could bring into the organization whatever men you want to help you, either financially or personally.⁷⁵

This was a quick—and clever—pivot from one offer to another, and Keys's willingness to accommodate Lindbergh's desires suggests how badly he wanted Lindbergh involved in the venture. Ultimately, Lindbergh "accepted an appointment as Chairman of the

⁷² Chester M. Cuthell, letter to Charles Lindbergh, 06/27/27. MSSA Lindbergh, MS325, series III, box 102, folder 251.

⁷³ Chester M. Cuthell, letter to Charles Lindbergh, 07/27/27. MSSA Lindbergh, MS325, series III, box 102, folder 251.

⁷⁴ Ibid. Cuthell assured Lindbergh his responsibilities would not extend to any of the following: "advertising, making of contracts, legislation, both Federal and State, office management, field management, purchase and disposal of incidental equipment, traffic solicitation, taxation and the many other details that are usually included under the heading of management."

⁷⁵ Ibid.

Technical Committee of the Transcontinental Air Transport in charge of all technical details."⁷⁶ The position allowed him wide latitude and real power to shape the airline—it was no sinecure—and did not restrict ability to promote the general cause of aviation.

Despite his celebrity, Lindbergh remained an airmail pilot thrust into the public eye by an improbable flight. He wore this fame heavily, doling it out a bit at a time, always to promote aviation. In a brief press release, he explained his reason for joining T.A.T.: "I believe the next important step in the progress of American aviation will be the inauguration of extensive passenger transportation, consequently, I have become actively identified with the Transcontinental Air Transport."⁷⁷ Lindbergh hoped, he wrote years later, that a world interconnected by aviation would "increase human freedom [and] bring the peoples of the world together in understanding and peace. What could advance civilized progress more rapidly than fast communication?"⁷⁸ Lindbergh did not rush into Keys's corporate arms. Before he joined T.A.T.—and it is one of the very few organizations he did join after his transatlantic flight—he had to be convinced that the move would somehow benefit aviation. Keys, for his part, regarded Lindbergh's involvement as a coup: "He is proud of having signed up Lindbergh and likes to talk about it," wrote *The New Yorker*.⁷⁹ Ultimately, both parties came away satisfied: Lindbergh gained a job that would have a real impact on the development of aviation, and Keys gained a new figurehead for his airline. Important though Lindbergh was, the young pilot was just one piece in Keys's larger plan.

⁷⁶ Charles Lindbergh, statement on joining Transcontinental Air Transport, [1928]. MSSA Lindbergh, MS 325, series III, box 124, folder 508.

⁷⁷ Ibid.

⁷⁸ Lindbergh, *Autobiography*, 41.

⁷⁹ Thurber, "Lindbergh's Boss," *The New Yorker*.

After securing Lindbergh's involvement, Keys and his associates spent the first few months of 1928 bringing together a board of directors.⁸⁰ Each man they recruited to serve on the board—and the directors were all men—was chosen for a specific reason. The board was large and diverse, with 21 notable men drawn from many different sectors of American commercial life. Representatives of the Pennsylvania Railroad, Fred Harvey, and The Ford Motor Company all sat on the board, as did Lindbergh's backers. The board also included officers and directors of Keys's other corporations. Keys took the position of president.⁸¹ By examining the composition of the board we can better understand Keys's business strategies and the underpinnings of T.A.T.

General William W. Atterbury, president of the Pennsylvania Railroad, had recently declared that the Pennsylvania would no longer be a railroad company but instead a comprehensive transportation provider.⁸² Atterbury saw in T.A.T. the potential to extend his railroad's reach past St. Louis, its western terminus, as well as the possibility to ally his railroad with the new technology of flight. The Pennsylvania Railroad purchased a 20% stake in T.A.T.⁸³ and two men from the Pennsylvania sat on the board: Daniel M. Sheaffer, chief of passenger transportation, and Julien L. Eysmans, vice-president in charge of traffic.⁸⁴ The Atcheson, Topeka, and Santa Fe Railway, T.A.T.'s transportation partner in the western half of the country, declined to invest in the airline; its directors were concerned that supporting alternative forms of

⁸⁰ A full list of T.A.T.'s directors is included in Appendix 2.

⁸¹ Transcontinental Air Transport, "Transcontinental Air Transport, Inc," TAT Plane Talk Jan. 1929: 1-2. SPL AHC.

⁸² Schwantes, Going Places, 204-205.

⁸³ Stephen Fried, Appetite for America: How Visionary Businessman Fred Harvey Built a Railroad Hospitality Empire That Civilized the Wild West. New York: Bantam, 2010. 296.

⁸⁴ "Transcontinental Air Transport, Inc." TAT Plane Talk.

transportation would be a conflict of interest.⁸⁵ (The Santa Fe Railway was not represented on T.A.T.'s board.) But the involvement of the Pennsylvania Railroad and the Santa Fe Railway demonstrated that other transportation companies took T.A.T. seriously, suggesting that passengers should too. "The big transportation systems with their huge investments of capital do not rush into new schemes with enthusiasm," wrote *The San Francisco Chronicle*. Their participation meant that passenger aviation had "reached a substantial point in development and has come to stay."⁸⁶

Lindbergh's transatlantic flight had been underwritten by three men: Harold Bixby, Henry Breckinridge, and Harry Knight, all of St. Louis. Lindbergh did not join the board—he was not interested in administration—but his three backers did. They brought with them backgrounds in law and investment banking. They were also wealthy members of the St. Louis social elite and their association with the venture added a certain luster. Men of means chose their investments carefully: If Lindbergh's financial backers endorsed the airline, that was a sign that the airline was a prudent venture.

Fred Harvey, the famous dining chain of the Midwest and Southwest, was now managed by Ford Harvey, the son of its eponymous founder.⁸⁷ Ford's son, Freddy, was an aviation enthusiast: He owned his own plane, had flown in World War I and knew Charles Lindbergh, albeit tangentially, through the air corps.⁸⁸ Freddy also knew Lindbergh's backers through the flying club in St. Louis, and, like them, believed that

⁸⁵ Fried, *Appetite for America*, 296.

⁸⁶ "What It Means When Railroads Join Hands With Air Transport," *The San Francisco Chronicle*, 17 May 1928.

⁸⁷ In keeping with the wishes of the original Fred Harvey, Fried notes, the company was called Fred Harvey. "Not Fred Harvey Inc. or The Fred Harvey Company. Just Fred Harvey." Fried, *Appetite for America*, xvii.

⁸⁸ For clarity's sake, I have adopted Fried's narrative convenience of referring to Fred Harvey's grandson as "Freddy," so as to distinguish him from his grandfather and from his company.

passenger air travel was the next big thing. In April of 1928, Knight mentioned that his St. Louis brokerage house was helping raise capital for a transcontinental passenger airline. Freddy saw an opportunity to expand the family business: Fred Harvey ran every dining car on the Santa Fe Railway, the dining room at every station stop, and resort hotels throughout the Southwest. Now it was possible for "the first meals served in the air to be Fred Harvey meals."⁸⁹ This was thrilling for Freddy, and probably also for Keys. Fred Harvey meals were nationally known, the standard for out-of-home prepared food around the country. Fred Harvey became the airline's caterer and Freddy got a seat on the board. Freddy was also, along with William Vanderbilt, one of two private investors in the company's original stock. Like Keys, he backed his judgement with capital.

The Ford Motor Company, which supplied the airline's planes, was represented on the board by William B. Mayo, the company's chief engineer. This broke with Keys's vision of a perfect, vertically-integrated corporation, but the airplane manufacturers within his aviation empire had no planes suitable for passenger operations. Associating with Ford Motor also gained Keys the Ford brand. Keys was not well-known among Americans—not a household name in the way that Charles Lindbergh, Fred Harvey, or Henry Ford were—and it sometimes seems as if he were collecting brands. Americans may not yet have heard of Transcontinental Air Transport, but they had heard of Lindbergh, of Harvey and Ford, and of the Pennsylvania Railroad and the Santa Fe Railway. By building his company on established, recognized figures and brands, Keys built an easy way for the public to understand what the airline was and why they could trust it.

⁸⁹ Fried, *Appetite for America*, 296.

Building a diverse, interlocking board was a way to gain the allegiance and expertise of men already involved in diverse fields: transportation, catering, airline operations, airplane construction. It was also an endorsement of Keys's vision. To outside investors, the board demonstrated that T.A.T. was serious about its undertaking. Investors would judge the venture based on those who affiliated themselves with it, so Keys felt that the "Board of Directors and officers *must be strong*, because their character is the only thing that would justify offering and buying these shares. The Board must include: character, experience, public reputation, financial standing beyond reproach."⁹⁰

But by "strong," Keys meant that the company's directors must be upstanding, not that they be powerful. He intended to keep the board away from much of the work of the company and structured the board so that he could control it through agents of his aviation empire. Thirteen of the board's twenty-one seats—a majority—were filled by Keys's men. In a letter to Paul Henderson, one of his confidants and vice-president of National Air Transport, Keys's airmail line, Keys noted that "if we are not able between us to shape the general policies of the Transcontinental, I think that it will be our own fault almost entirely."⁹¹ The board thus gave Keys both the appearance of wide-ranging support and the latitude to operate according to his best judgement.

There was also a geographic element to the board's composition.⁹² Directors were distributed roughly along the transcontinental route: Keys in New York, the officers of the Pennsylvania Railroad in the mid-Atlantic, Lindbergh's backers in St. Louis,

⁹⁰ Clement M. Keys, hand-written notes, [04/1928]. NASM Keys, box 23, folder 30.

⁹¹ Clement M. Keys, letter to Paul Henderson, 04/04/1928. NASM Keys, box 23, folder 16.

⁹² This argument was first made by Ted Davies, an independent historian working on a biography of Clement Keys. Ted Davies, personal interview, 11/24/09.

Freddy Harvey in Kansas City, his company Fred Harvey across the southwest, and, in California, Thomas B. Eastland, a director of the Aviation Corporation of California. This way, financial and material support for the airline was distributed along its route. The airline was national, but also local wherever it went.

The aviation field was new and unsettled. Ideas moved like clouds across the sky, shifting, merging, forming and re-forming. Over a series of months, Keys shaped T.A.T., translating it from an idea into a corporation. His managerial style was methodical and detail-oriented, ideal for taking a big idea—Lindbergh National Air Lines—and giving it practical form. On May 14, 1928, Transcontinental Air Transport was officially incorporated. With this event, wrote Lindbergh, "the time of dreaming and talking had passed. We were faced with the practical problem of creating a safe and attractive service that would eventually make money."⁹³ The airline, Lindbergh recognized, would have to attract passengers.

⁹³ Lindbergh, *Autobiography*, 102.

3. The Construction of an Airline, or: "The day we are properly ready."

As the War gave aviation its first great impetus, so did the War give it a flavor. For a decade after the last young ace drained a flask of Scotch and jumped into the cockpit of his bomber, the fine flavor of recklessness hung about this new-born sport and industry of the air. As a result, while the world's store of adventure and romance was measurably renewed, very little was added to the world's knowledge of transport. For transport is a different matter altogether. Transport is not created in a series of gallant, superhuman bursts, but by sustained and sober effort. There is not time, figuratively or literally, for flasks of Scotch in the transport business.

— *Fortune* magazine, April 1930 ⁹⁴

Air travel in the United States is soon to emerge from the spasmodic era of the thermos bottle, the cheese sandwich and the leather jacket. Passengers' safety and comfort are, above all else, to command the attention of the newly formed Transcontinental Air Transport, Inc., which announced its plans last week.

— *Time* magazine, May 1928 ⁹⁵

Hardly any American airlines offered passenger service in the early part of the 20th century. Profit lay in federal airmail contracts, not passenger fares. Compared to airmail rates, passenger fares were worth significantly less per pound. Airplanes were small, often lacking space for anything more than a pilot and a mailbag. If a passenger could be accommodated, he or she might sit in a second cockpit, open to the elements, or in a small cabin surrounded by bags of airmail. Airlines regarded passengers as outright nuisances. As the old railroad saying went, "freight doesn't complain."⁹⁶ Passengers got hot, or cold, or hungry. They expected safety; worse than that, they expected comfort. Several airmail lines *raised* their passenger fares to discourage bookings. If they carried passengers at all, it was generally on an *ad hoc* basis. The mood was not welcoming. Passengers were "provided with flying suit and parachute, often asked to carry a sack of mail on their laps, and sometimes dumped at some point

⁹⁴ "Air & Rail," *Fortune Magazine*, Apr. 1930: 80-87.

⁹⁵ "Train & Plane," *TIME Magazine*, 28 May 1928: 22-24.

⁹⁶ Fried, *Appetite for America*, 40.

along the route to make way for the priority mail."⁹⁷ Early airports offered minimal passenger facilities, notes architectural critic Alastair Gordon. They were industrial places, their buildings all "shabby hangars or shacks for servicing mail planes."⁹⁸ In this inhospitable atmosphere, the determined passenger could travel by air—but few passengers were so determined.

Transcontinental Air Transport would be different. Keys was a contemporary of men like Fred Harvey and George Pullman, who had built entire companies by selling excellent passenger service.⁹⁹ What they had done for rail, T.A.T. would do for the air: Provide a seamless, luxurious travel experience. With the airline's corporate structure in place, Keys turned to building a passenger airline. This chapter chronicles the construction of the airline's physical infrastructure and of its public image. The airline's mission to serve passengers influenced every step it took. Physical infrastructure—airfields, radio towers, weather stations—had to be built almost entirely from scratch, a monumental undertaking, surpassed only in scale, scope, and reach by the construction of the transcontinental railroads sixty years earlier. But construction wasn't enough: The airline also had to convince potential passengers that flying was a safe and enjoyable way to travel.

It is tempting to view the airplane as a beast entirely loosed from the surly bonds of Earth, as a lone machine that can range across the sky. But landings must accompany take-offs, and each must be made at prepared air fields. The airplane's infrastructural needs are as fixed and necessary as those of the railroad or automobile

⁹⁷ Davies, *Airlines*, 39, 62.

⁹⁸ Gordon, *Naked Airport*, 25.

⁹⁹ For more on the origins of Pullman's cars and Harvey's meals, see Fried, *Appetite for America*, 37-45.

—they are merely less visible. Like its gravity-bound compatriots, the airplane could not bridge the country without a base of infrastructure, and yet aviation infrastructure was precisely what the country lacked.

Construction began not with building airports but with building capital. The company initially raised three million dollars (\$38 million). Keys then decided to raise an additional two million dollars (\$25 million) for "unknown contingencies." "Contingencies have been the most important thing that I have encountered in all my life and I always expect lots of them," he explained.¹⁰⁰ By the time the company was organized it had five million dollars (\$63 million) in capital. Building the airline would be expensive and Keys expected initial operating losses as travelers adjusted to the idea of air travel. The airline needed to have a store of reserves to carry it through lean times.

The airline's founders knew that they wanted a transcontinental route. As they selected station stops, several factors guided their work. "It was apparent that the route should be laid out as directly as possible, in consistence with areas of population and safety and regularity of operation," Lindbergh wrote in 1930.¹⁰¹ T.A.T. would stop in centers of population, so as to maximize its base of potential passengers. Wichita, in Kansas, and St. Louis and Kansas City, in Missouri, were all included on the route, even though their inclusion made the route less direct. It was also important that the route be safe and comfortable—passengers were rightly assumed to have a much lower tolerance for turbulence and rough weather than trained pilots. The airline used government weather records to determine which routes would "offer the least difficulties

¹⁰⁰ Keys, "What the Rail-Air Business Means," NASM Keys.

¹⁰¹ Charles Lindbergh, report submitted to D. M. Sheaffer of the Pennsylvania Railroad, [1930]. MSSA Lindbergh, MS 325, series III, box 124, folder 511.

from the point of view of weather, head winds, sudden storms, fogs, et cetera."¹⁰² The final route avoided mountain ranges, which caused turbulence, were prone to bad weather, and were difficult for even veteran pilots to navigate. This was why passengers left New York by train—it was easy to travel through the Allegheny Mountains by train, but difficult and dangerous to fly over them.¹⁰³ In the Southwest, T.A.T. chose a route over flat stretches of desert and over the low western mountains to take advantage of relatively clear weather and minimal turbulence.¹⁰⁴ Wherever possible, T.A.T. aimed to fly through smooth skies.

The ideal route for weather and passengers was then compared and "coordinated with a study of rail schedules on both lines of the Santa Fe Railroad," so that passengers could make their sleeper train connections each night.¹⁰⁵ Some stops were selected with eye to the operation of the entire system. For example, Waynoka, Oklahoma, and Clovis, New Mexico, were chosen in preference to other cities because "a more perfectly balanced flying time between the eastern and western divisions can be maintained over the Waynoka-Clovis route."¹⁰⁶ Safety, reliability, and affordability, those same watchwords that Keys first elucidated in 1925, guided the translation of the

¹⁰² Transcontinental Air Transport, Annual Report [FY 1928], Wilmington, Del.: 1929. MSSA Lindbergh, MS 325, series III, box 124, folder 513.

¹⁰³ N.A.T. had learned this during its operation of the New York-Chicago airmail route.

¹⁰⁴ Lindbergh, report to Sheaffer, MSSA Lindbergh.

¹⁰⁵ Transcontinental Air Transport, Annual Report [FY 1928], MSSA Lindbergh.

¹⁰⁶ Transcontinental Air Transport, "Terminal Facilities and Their Development," TAT Plane Talk Feb. 1929: 1-3. SPL AHC. Waynoka and Clovis beat out Dodge City, Kansas, and Las Vegas, New Mexico.

transcontinental idea into an actual route and schedule. When the route was finalized in February of 1929, there were fourteen stops (see Figure 4).¹⁰⁷

Unfortunately, there were not fourteen airports. "In a preliminary survey by Colonel Lindbergh it was learned there were no existing airports suitable for use of TAT planes."¹⁰⁸ The airline responded to this daunting task with a methodical approach and built fourteen airports over a period of six months.¹⁰⁹ It cleared and graded land, built runways and terminal facilities, installed lighting, and, in some cases, built roads to the nearest town. At each airport, T.A.T. built a smartly appointed passenger station with waiting rooms, restrooms, and a newsstand. The stations in Columbus, Ohio, and Albuquerque, New Mexico, each also housed a restaurant and offices for T.A.T. The influence of Fred Harvey and the Santa Fe Railway was evident in Albuquerque, where the T.A.T. station was "done in the old Spanish style of architecture familiar to the region," all adobe and tile (see Figure 5). The Columbus station was a handsome two-story building clad in cream-colored brick.¹¹⁰ T.A.T. bragged that its stations were "equal in comfort and convenience to a railroad passenger station."¹¹¹ Clearly, this was a shift from the shabby, industrial hangars used by mail planes. By building on the established architectural type of the railroad station, already well-known to passengers, T.A.T. aimed to normalize air travel and make it seem familiar.

¹⁰⁷ "Terminal Facilities and Their Development," TAT Plane Talk. The cities on the route were: Columbus, Ohio; Indianapolis, Indiana; St. Louis, Missouri; Kansas City, Missouri; Wichita, Kansas; Waynoka, Oklahoma; Clovis, New Mexico; Albuquerque, New Mexico; Winslow, Arizona; Kingman, Arizona; Barstow, Arizona; Los Angeles, California; and San Francisco, California.

¹⁰⁸ "Terminal Facilities and Their Development," TAT Plane Talk.

¹⁰⁹ City or other local funds supported the construction or improvement of five airports in Columbus, Ohio; Indianapolis, Indiana; St. Louis, Missouri; Kansas City, Missouri; and Wichita, Kansas.

¹¹⁰ Transcontinental Air Transport, "Construction Progress," TAT Plane Talk May 1929: 1-3. SPL AHC.

¹¹¹ Transcontinental Air Transport, "The Day We Are Properly Ready," TAT Plane Talk July 1929: 1-4. SPL AHC.

Cities were eager to be on the T.A.T. route—so eager, in fact, that the *San Francisco Examiner*, in its coverage of the airline, felt that the city had been snubbed and "wrote its story around the resentment of San Francisco, that Los Angeles was chosen as a Western Terminal."¹¹² The *Examiner*, offended that San Francisco-bound passengers would "be forced to go to Los Angeles first," called for a bifurcated route with terminals in both cities, or, if that was not possible, the "establishment of similar service with other railroads and airplane companies direct between San Francisco and New York." Milo F. Kent, the chairman of San Francisco's Supervisors' Airport Committee, told the *Examiner* that "our commercial value and importance demand our being given direct service in the establishment of such a line. We are a force to be reckoned with." James Rolph, San Francisco's mayor, and Frank A. Flynn, superintendent of the San Francisco Municipal Airport, concurred with Kent, the paper reported.¹¹³ This resentment is historically interesting because it mirrors the bitter campaigns waged by cities for the attention of railroad companies. In the 1840s and 1850s, Chicago and St. Louis jockeyed to be the focus of the railroads in the Midwest;¹¹⁴ later in the century, Tacoma and Seattle vied to be the western terminus of Northern Pacific Railroad's northern transcontinental route. City leaders may not have been sure what to make of aviation, but they didn't want to be left out.

Equally interesting is how T.A.T. responded to San Francisco's complaints: They sent in Charles Lindbergh. Keys recognized that Lindbergh's celebrity could be a powerful diplomatic force. "Colonel Lindbergh was dispatched to the West Coast to

¹¹² Thomas B. Eastland, letter to Clement M. Keys, 05/17/1928. NASM Keys, box 23, folder 6.

¹¹³ "Time From N.Y. Reduced to 2 Days," *The San Francisco Examiner*, 16 May 1929.

¹¹⁴ Schwantes and Ronda, *The West The Railroads Made*, 37-77.

endeavor to smooth out the relationship between the T.A.T. and the city and press of San Francisco," wrote Keys.¹¹⁵ T.A.T. vice-president Paul Henderson recommended appeasing the *Examiner* with a vague promise for future service after T.A.T. worked out the technical problems of night flying.¹¹⁶ While in San Francisco, Lindbergh "had interviews with the Mayor and Commissioners and the Press and apparently accomplished the object desired, as the attitude of the Examiner since that time has been much broader," Keys wrote.¹¹⁷ But T.A.T. still planned on using Los Angeles as its western terminus. Lindbergh's visit, wrote Henderson, was nothing more than a "song and dance."¹¹⁸

Airports were the most visible part of the network, but T.A.T. invested significant resources behind the scenes to ensure passenger comfort and safety. The airline built a coast-to-coast radio network, which its pilots used to stay in touch with ground stations and to navigate along the route.¹¹⁹ Radio-equipped planes were new and radio navigation promised to be safer than navigating by landmarks on the ground, as airmail pilots had done for years. On the ground, a teletype network connected airports, weather stations, and radio towers to each other. T.A.T. employees could use it to send weather reports and use it for "plane dispatching, ordering plane movements, [and the] transmission of reports, reservation requests and inter-company messages."¹²⁰

¹¹⁵ Clement M. Keys, letter to Fred ("Freddy") Harvey, 06/25/1928. NASM Keys, box 23, folder 16.

¹¹⁶ Paul Henderson, letter to Charles Lindbergh, 06/30/1929. MSSA Lindbergh, MS325, series III, box 124, folder 505.

¹¹⁷ Keys to Harvey, NASM Keys.

¹¹⁸ Henderson to Lindbergh, MSSA Lindbergh.

¹¹⁹ Transcontinental Air Transport, "Radio and Tele-Type Facilities," *TAT Plane Talk* Mar. 1929: 1-4. SPL AHC. The radio network could also be used by passengers with "essential business" to send telegrams.

¹²⁰ "Radio and Tele-Type Facilities," *TAT Plane Talk*.

Essentially, the airline replicated the type of communications network that allowed the railroads to function as large, integrated companies.

Radio and teletype made national air travel possible, but the airline's weather bureau made it safe. The fickle nature of weather had long bedeviled aviation: Pilots routinely took off without any knowledge of conditions at their destination and could only improvise a response if weather deteriorated en route. Solving the weather problem was especially important for passenger aviation because passengers could not parachute out of their planes, as airmail pilots sometimes did. By linking a system of weather reporting stations—more than 40 of them, strung along its route—T.A.T. sought to "place before the pilot an exact picture of conditions surrounding him." These stations, when coupled with the airline's vast radio network, meant that a pilot could be "informed of adverse conditions lying ahead of him and advised to detour through more favorable areas."¹²¹ This new ability to see distant weather would, the airline hoped, greatly reduce the danger of flying. These three systems—radio, teletype, and weather—knit the entire transcontinental airline into a tightly coordinated, interconnected network and shrunk the distance between planes and airports. They made flight predictable, and therefore safer. T.A.T.'s planes would range through empty skies and land at lonely airports, but they would never be alone.

The airline's planes, like its infrastructure, were chosen with an emphasis on safety and reliability. Early airplanes, commonly built from wood and cloth and powered by a single engine, were small, crude, and unreliable.¹²² Aviation technology in the late 1920s was so unsophisticated that Lindbergh, whose role in the airline included

¹²¹ Transcontinental Air Transport, "TAT Weather Services," TAT Plane Talk Apr. 1929: 1-6. SPL AHC.

¹²² Schwantes, Going Places, 193.

selecting airplanes, was, in his words, "planning an airline around nonexistent aircraft." "Airplanes had to be faster, safer, and more reliable than the best being produced," he later wrote.¹²³ On Lindbergh's recommendation, the airline purchased ten Ford Tri-Motors (see Figure 3). The Tri-Motor—a big, metal monoplane with three engines—had its genesis with Henry Ford, who had declared that "metal's the thing of the future."¹²⁴ Metal was more durable than fabric, especially important for an airplane's wings, where lifting ability could be adversely affected by fabric degradation. An airplane with multiple engines could sustain flight even if an engine failed, making it safer, far more reliable, and vastly better suited to passenger service than a single-engine plane. "There is also a traffic sales advantage in operating a passenger line with all metal ships," wrote Lindbergh in an equipment selection report, "and as the public becomes better acquainted with flying this advantage will increase."¹²⁵ As it had with airport construction, the airline chose equipment carefully, guided by the need to keep its passengers safe and comfortable.

As it built runways and radio towers, the airline also built a mental infrastructure, a way for the public to understand it. In this realm, the airline worked not from scratch, but built on the store of air-mindedness that had accumulated in the American consciousness over the previous two decades. If the airline was to attract passengers, it first had to allay common concerns about aviation. Many people "do not take to the skies naturally without nervousness," wrote Keys.¹²⁶ To normalize the experience and

¹²³ Lindbergh, *Autobiography*, 97.

¹²⁴ Ford qtd. in Lindbergh, *Autobiography*, 99. "Forced landings" was the industry term for landings caused by engine failure. Early single-engine airplanes were not terribly reliable.

¹²⁵ Charles Lindbergh, report on the Curtiss Condor airplane, [1928]. MSSA Lindbergh, MS 325, series III, box 124, folder 509.

¹²⁶ Keys, "What the Rail-Air Business Means," NASM Keys.

give potential passengers a point of comparison, T.A.T. repeatedly compared air travel to rail travel.¹²⁷ The passenger experience it offered was almost comparable to Pullman class accommodations on trains. Its planes had on-time records "that may well be compared with the records of our greatest railroads."¹²⁸ And its pilots were "building a tradition of the air that will stand beside the older traditions of land and sea—traditions great because all alike are founded on safety, regularity, reliability."¹²⁹ Linking T.A.T. to the railroads and to earlier forms of transportation would, the airline hoped, locate it within a historical continuum that passengers could understand.

The airline also traded heavily on its relationship with aviation celebrities. Charles Lindbergh personified aviation and the airline's marketing materials invoked his name as often as possible, noting his selection of airport sites, his survey of airplanes, and his management of pilot hiring.¹³⁰ The airline also hired Amelia Earhart, who had risen to fame in 1928 for being the first woman to fly across the Atlantic Ocean (albeit as a member of the flight crew, not as a pilot).¹³¹ That same year, Earhart became the first woman to fly solo across the United States. Her role with T.A.T. was "Assistant to the General Traffic Manager," but, as with Lindbergh, her title was less important than her

¹²⁷ This tactic resembles earlier techniques of Western boosterism, in whose publications the landscape of the West "was always incomparably good, but it was rarely, if ever, presented as being in any way foreign or unusual." See: David M. Wrobel, Promised Lands: Promotion, Memory, and the Creation of the American West. (Lawrence, KS: University P of Kansas, 2002.) 41. Similarly, Pan American Airways normalized air travel by comparing it to steamship travel.

¹²⁸ Pennsylvania Railroad, Two Days by Plane, Two Nights by Train, MOF Hatfield.

¹²⁹ Ibid.

¹³⁰ While courting Lindbergh's involvement, Keys' lawyer wrote in a letter to Lindbergh: "We think the public would be largely influenced in using these planes if they were sure that you had vouched for the planes and the pilots." Cuthell to Lindbergh, 07/27/27, MSSA Lindbergh.

¹³¹ In many ways, Earhart's celebrity represents a foil to Lindbergh's. Where he receded from the public eye, Earhart scooped up endorsement opportunities to finance her aviation. Although beyond the scope of this paper, Earhart's involvement in early aviation also provides a way of understanding the period and the technology in terms of gender.

association with the airline. Earhart wrote a column directed at female passengers for *TAT Plane Talk*, the airline's monthly newsletter.¹³² Such celebrity endorsements would, the company hoped, communicate to potential passengers that it was a quality operation.

The airline also attempted to assuage passenger concerns with aesthetics. The cabin of each Ford Tri-Motor was sumptuously appointed. "Interior decorations and fittings are in soft restful tones with here and there a touch of modern art," noted a company brochure.¹³³ Each of the ten wicker seats inside the cabin—five on each side of a narrow aisle—had its own wall light, a window that slid open, and a floor heater. The cabin was equipped with a lavatory and small galley. There were magazines and daily newspapers available. A courier—T.A.T.'s term for flight attendant—attended to passengers, selling playing cards, offering stationary, and setting up "portable tables" on request. Meals, prepared by Fred Harvey chefs and delivered to the plane when it stopped in St. Louis, tended to be light. On one early flight, passengers were offered "freshly made sandwiches—chicken salad, egg salad, and cheese—along with a pickle, a piece of cake, an apple, a banana, and a choice of coffee or milk," served by the courier on portable tables with lavender tablecloths.¹³⁴ In short, read a company brochure, the Tri-Motor offered "all the comforts and facilities of ordinary transportation," as if it were an airborne Pullman coach.¹³⁵

¹³² Amelia Earhart, "TAT—Women's Best Travel Mode," *TAT Plane Talk* Oct. 1929: 4. SPL AHC. Earhart's subsequent columns explored "Feminine Attire for the Airway" and "The Gay Ninety Idea of Flying."

¹³³ Transcontinental Air Transport, *Transcontinental Air Transport, Inc. [Brochure]*, [1929]. MSSA Lindbergh, MS 325, series III, box 124, folder 514.

¹³⁴ Fried, *Appetite for America*, 314.

¹³⁵ "Transcontinental Air Transport, Inc," *TAT Plane Talk*.

The couriers and pilots wore uniforms modeled on U.S. Navy uniforms: Navy blue double-breasted jackets with gold sleeve stripes denoting rank, white shirt and dark tie, navy blue trousers, and a navy blue combination cap.¹³⁶ This outfit was designed to impart a sense of order to passengers, suggesting that aviation was orderly and hierarchical, and visibly countering the popular assumption that pilots were daring rascals in leather bomber jackets.

T.A.T. marketed its service to business travelers, tourists, and "frequent travelers." The speed advantage enjoyed by the airplane over the train meant that "the business man who estimates his wealth in hours as well as dollars will find it profitable" to travel by air, wrote an airline brochure. A business traveler could even use an airplane's on-board radio to "stay in touch with his office in New York." For the tourist, the airplane's speed was "a means of lengthening his play time." T.A.T. offered stop-over privileges in the Southwest so that travelers could enjoy a Fred Harvey Detour, a package tour for "detourists" who wanted to travel off the beaten-path. The frequent traveler, who perhaps found rail travel boring, "will welcome the new service as an opportunity of becoming acquainted with and understanding America."¹³⁷ By showing how these groups could benefit from air travel, T.A.T. hoped to accustom potential passengers to the idea of flight.

Construction and marketing continued as May slipped into June, and June into July. Keys had announced in January that T.A.T. would not begin passenger service until "the day we are properly ready," thereby turning an unknown opening date into an

¹³⁶ Transcontinental Air Transport, "Pilot Personnel," TAT Plane Talk June 1929: 1-6. SPL AHC.

¹³⁷ Transcontinental Air Transport, Transcontinental Air Transport, Inc. [Brochure], MSSA Lindbergh.

asset.¹³⁸ More than a year of development—why rush things? The past year's work had been guided by Keys's watchwords: safety, reliability, affordability. As T.A.T. turned its collective efforts from building an airline to operating one, 'quality' entered this parthenon of watchwords. It had been no simple feat to build an airline, but neither would it be simple to keep passengers happy—or even to keep passengers.

¹³⁸ "Terminal Facilities and Their Development," TAT Plane Talk. An earlier version of this saying appeared in the first issue of TAT Plane Talk.

4. Ascent and Descent, or: "Fly The Lindbergh Line."

Even with fifteen years of flying experience this inaugural trip over T.A.T. is astoundingly pleasant as we now are flying above continental divide at nine thousand feet. I have just looked down upon lava beds and into extinct volcano craters and observed scenery as mankind never before has seen it. I predict a great future for T.A.T. All passengers aboard are highly enthusiastic over trip scenic effects and T.A.T. efficiency. Never again do I wish to use a railroad to cross the continent

—Edgar S. Gorrell, passenger aboard the inaugural flight, in a telegram composed en route ¹³⁹

Transcontinental Air Transport began passenger service on July 7, 1929.

Lindbergh's brief tap of his transcontinental button was a link in a chain of made-for-media moments that composed the tightly choreographed, forty-eight-hour long inauguration of service. The ceremonies emphasized themes of celebrity, incorporation, and nationalism. For these two days, the culmination of the company's public relations effort, it seemed as though T.A.T. had done the impossible: It had slashed travel times between the coasts in half, while charging a fare comparable to that of the railroad.¹⁴⁰ But the true test of T.A.T.'s accomplishments would occur over the weeks and months that followed. Would people want to fly?

The airline's opening day began with ceremonies at Pennsylvania Station in New York City. A thousand people gathered to hear a roster of speeches and to watch the departure of The Airway Limited, the Pennsylvania Railroad's new overnight train to Columbus, Ohio, T.A.T.'s jumping-off point. The five people who spoke—Paul Henderson, vice-president of T.A.T.; Amelia Earhart, who held an executive post with T.A.T.; Elisha Lee, vice-president of the Pennsylvania Railroad; Dr. John H. Finley, editor of *The New York Times*; and Hon. Grover Whalen, the police commissioner of

¹³⁹ " 'The Day We Are Properly Ready,' " *TAT Plane Talk*, SPLAHC.

¹⁴⁰ T.A.T. offered an all-inclusive transcontinental service for \$375 (\$4,700), compared to a typical railroad fare of \$335 (\$4,200) for drawing-room class accommodations.

New York City—represented the transportation companies involved, the media, and the government, with a dash of grandeur and celebrity thrown in.¹⁴¹ The speeches were broadcast live over radio stations in New York, Philadelphia, and Cincinnati, extending the event beyond those present.¹⁴² Dr. Finley, his paper reported,

recalled the days of the covered wagon, telling of his view of the first train "as it came creeping slowly across the prairies on a newly laid track." "A few months ago, in visiting my birthplace," he said, "I saw a beacon in sight of the field which I had plowed as a boy and near it an emergency landing field where—it is now proudly related—one who was known to the people of the neighborhood as 'Lindy' used to alight as an airmail pilot."¹⁴³

Finley's speech echoed the themes of manifest destiny that had ricocheted about the West for decades. His careful chronology of the successive forms of transportation that were used to bridge the West turned away from the novelty of air-mindedness and instead emphasized how aviation was similar to that which came before it, not different. In Finley's formulation, airplanes naturally followed covered wagons and trains—they were already familiar, just as T.A.T.'s marketing materials had repeatedly suggested.

The ceremonies included the christening of one of T.A.T.'s Ford Tri-Motors. The airplane, named *The City of New York*, had been brought into Pennsylvania Station for the occasion.¹⁴⁴ Each of T.A.T.'s planes was named for a city along its route. This practice, when applied to airplanes, was a powerful metaphor of incorporation. Each plane physically linked cities to each other and into a larger national transportation network; their names emphasized their ability to shrink distance. Amelia Earhart christened the ship, tying her celebrity to the airplane's purpose.

¹⁴¹ " 'The Day We Are Properly Ready,' " *TAT Plane Talk*, SPL AHC.

¹⁴² Davies, *Airlines*, 84.

¹⁴³ "Lindbergh Signal Opens Air-Rail Line," *The New York Times*, 8 Jul. 1929: 1, [ProQuest Historical Newspapers The New York Times \(1851-2006\)](#), 03/04/1929

¹⁴⁴ " 'The Day We Are Properly Ready,' " *TAT Plane Talk*, SPL AHC.

After the speeches, after the last passengers had boarded The Airway Limited, the crowd at Platform 15 grew quiet in anticipation (see Figure 6). At 6:05 PM, Eastern time, the light flashed, the crowd cheered, and the train rolled slowly out of the station,¹⁴⁵ as a band on a flatcar rolled alongside, playing "California, Here We Come."¹⁴⁶ It was as if Lindbergh had reached one hand across the continent to summon the train. The ritual emphasized that the airline should be thought of in national, not local, terms. Air travel connected the country, and so it made sense that its inaugural proceedings would also. The ceremonies held over the next two days continued to stress this new sense of incorporation.

The next morning, The Airway Limited arrived at Columbus, Ohio, to a station decked with American-flag bunting. A crowd of 3,000 people had gathered in the steady morning rain to watch its arrival and await the take-off of two planes, *The City of Columbus* and *The City of Wichita*. Just before 8:15 AM, Eastern time, the two planes, "looking very much like two huge bugs," taxied to the center of the field and sat, propellers spinning, awaiting clearance for take-off. The signal came from Robert P. Lamont, the U.S. Secretary of Commerce, who pushed a button in Washington, DC, "which sounded a gong at planeside" in Columbus.¹⁴⁷ This cross-country ritual replicated Lindbergh's transcontinental reach. *The City of Columbus* would take off from the city's airport, but Lamont's interjection reminded the assembled observers that there was little about the day that was local. Along the route, "brief ceremonies were held at

¹⁴⁵ " 'The Day We Are Properly Ready,' " *TAT Plane Talk*, SPL AHC.

¹⁴⁶ "Lindbergh Signal Opens Air-Rail Line," *The New York Times*, 8 Jul. 1929.

¹⁴⁷ " 'The Day We Are Properly Ready,' " *TAT Plane Talk*, SPL AHC.

each T.A.T. station as the inaugural planes paused for fuel," and the route across America was slowly consecrated, airport by airport.¹⁴⁸

That same day, in Los Angeles, 30,000 people assembled to watch the departure of the first east-bound plane, *The City of Los Angeles*. Actress Mary Pickford, America's sweetheart, christened the airplane just before take-off and Charles Lindbergh flew the first east-bound leg, from Los Angeles to Winslow, Arizona (see Figure 6). He stayed at Winslow overnight and then flew the final leg of the west-bound plane carrying the passengers that had left New York at the push of his button two days earlier. This plane, *The City of Philadelphia*, was received by 20,000 people in Los Angeles and christened by Gloria Swanson, another movie star.¹⁴⁹ The inclusion of celebrities in these ceremonies served to generate public interest in the airline and its passenger service.

Each of these events connected the local to the national, just as Lindbergh's stops along his air tour had done the previous year. The ceremonies surrounding the airline's opening days were developed and staged to have maximum impact in the national media. T.A.T. was an airline, but also an idea, an idea endorsed by celebrities and trusted firms and made national through newspapers, radio broadcasts, and newsreels.¹⁵⁰ On that clear July day, Lindbergh pushed a button and catapulted the idea of transcontinental passenger air service into the national consciousness. The 48-hour-celebration of the start of service was, in many ways, the high point of the airline's short life.

¹⁴⁸ " 'The Day We Are Properly Ready,' " *TAT Plane Talk*, SPL AHC.

¹⁴⁹ Ibid.

¹⁵⁰ One of the great disappointments of research is that it must eventually come to an end so that one may begin to write. I discovered the Fox Movietone newsreels in the Newfilm Library at the University of South Carolina too late to obtain copies or for them to inform this essay.

The gleam and glitz quickly faded. Although more than 55,000 people attended some part of the opening day ceremonies, and while thousands more watched, listened, or read about them, the airline attracted few passengers. In July, its first month of operation, the airline reported filling 37% of its available capacity. In August, it filled 47.5% of capacity. To the airline, these "steadily increasing figures" were an "indication of the general demand for air and rail travel."¹⁵¹ But these numbers also meant that T.A.T. was routinely flying its planes half-empty: On its ten-passenger Tri-Motors, a plane that was 37% full meant three or four passengers—flown and attended to by a crew of three. Keys privately expressed disappointment that the passenger load factor wasn't higher.¹⁵² Americans, it seems, were still thrilled by the idea of flight, but not terribly interested in becoming passengers.

If passengers had to acclimate to the idea of flying, it seems also that pilots had to acclimate to the idea of flying passengers. Shortly before the start of service, Paul F. Collins, the airline's superintendent, wrote a memorandum that outlined rules for T.A.T.'s pilots. "Bearing in mind that many of our passengers have never been in the air before and that their safety and comfort are our primary considerations," he wrote, "steep climbing turns, side slips, and a rolling ship are to be avoided as much as possible."¹⁵³ T.A.T.'s executives were obviously concerned with making air travel feel smooth, but the company's pilots, while they looked clean-cut in their naval uniforms, still had some daredevil in them. Two months later, Collins penned a second memo, writing that "It is found necessary to again emphasize the elimination of climbing turns and steep banks,

¹⁵¹ Transcontinental Air Transport, "The First Sixty Days," TAT Plane Talk Sept. 1929: 1-3. SPL AHC.

¹⁵² Transcontinental Air Transport, Annual Report [FY 1929], Wilmington, Del.: 1930.

¹⁵³ Paul F. Collins, "Memorandum To All Pilots," 06/24/1929. MOF Hatfield, LEV-228.

except in an emergency."¹⁵⁴ Passengers, substantially less accustomed to the feeling of flight, felt jolts and banks more acutely than did pilots.

Not that the Tri-Motors made flight comfortable for passengers. The Tri-Motor's small cabin was not insulated against the noise or vibration of the plane's three huge engines. The cabin was extremely loud and vibrated as if passengers were in a car barreling down a gravel road.¹⁵⁵ The lack of insulation further meant that passengers alternately sweated and shivered their way through the Southwest. On the ground, the all-aluminum airplane caught and held the sun's rays, turning the cabin into an oven. As the plane climbed to its cruising altitude, the cabin temperature dropped towards freezing, a condition that the inadequate on-board heaters could do little to correct. And because the cabins were not pressurized, T.A.T.'s planes had to fly comparatively low, at altitudes between 3,000 and 5,000 feet. (Above 8,000 feet, people begin to be affected by altitude sickness; above 10,000 feet, they lose consciousness.) Flying this low meant that the planes were buffeted by turbulence, especially over rocky terrain. A service ceiling of 5,000 feet also meant that T.A.T.'s planes had to fly around storms, instead of over them. The noise, the vibration, the vast swings in temperature, and the turbulence all combined to make a flight aboard a Tri-Motor an uncomfortable and harrowing experience.¹⁵⁶

¹⁵⁴ Paul F. Collins, memo to division superintendents, field managers, pilots, 08/16/1929. MOF Hatfield, LEV-228.

¹⁵⁵ The National Air & Space Museum has an excellent exhibit that replicates this experience for museum visitors. Visitors stand on a small platform, which shakes violently at the push of a button.

¹⁵⁶ Stephen Fried suggests that part of the reason that T.A.T.'s planes stopped approximately every was not so that they could refuel or undergo safety checks, but so that nervous passengers could opt to disembark and take the train. Fried, *Appetite for America*, 314.

And then: Disaster. On September 7th, 1929, two months to the day after the airline inaugurated service, searchers announced that they had located *The City of San Francisco*, which had been missing for nearly a week. The airplane, it appeared, had encountered a storm along its route and reversed course. The pilot, unable to determine the plane's exact position, crashed into the side of Mount Taylor, killing all five passengers and all three crew. *The New York Times*, *The Los Angeles Times*, and *The Washington Post* all carried news of the disaster on their front pages, and the crash—the very type of crash the airline had hoped its weather and radio networks would prevent—stood to dramatically impact the airline's public image. The airline immediately suspended service so that its airplanes could be "thoroughly tested and examined for their air worthiness,"¹⁵⁷ and issued a statement in the next issue of *TAT Plane Talk*: "Every member of the T A T organization shares the sorrow of relatives and friends of those who were aboard the plane."

While the airline could inspect its planes and issue regrets, the cause had been pilot error and there was little else it could do. The same note in *TAT Plane Talk* reminded passengers that "Never was an air line presented for public service with such thorough preparation and adequate equipment."¹⁵⁸ When service resumed the following week, the first plane to fly out of Columbus had ten passengers—100% capacity for a Tri-Motor.¹⁵⁹ It is difficult to know what to make of this. Perhaps the tide of public opinion

¹⁵⁷ "Transport Craft Burned," *The New York Times*, 8 Sep. 1929: 1. [ProQuest Historical Newspapers The New York Times \(1851-2006\)](#), 6 Apr. 2010.

¹⁵⁸ Transcontinental Air Transport, "The Mt. Taylor Accident," *TAT Plane Talk* Sept. 1929: 4. SPL AHC.

¹⁵⁹ "Resumes Air-Rail Service," *The New York Times*, 16 Sep. 1929: 23. [ProQuest Historical Newspapers The New York Times \(1851-2006\)](#), 6 Apr. 2010.

was turning and Americans, initially skittish about flight, had come to see aviation as just another mode of transportation.

Whatever the case, T.A.T. lost money on its operations in 1929. Keys and his fellow directors expected to lose money at first. Soon before the start of service, Keys had written that "losses have occurred in the early days of almost all known forms of passenger transportation by steamship, rail, bus, or electric lines. There is nothing unusual, therefore, in expecting the same to happen in air transportation."¹⁶⁰ T.A.T. had banked the money necessary to carry it through such short-term losses until operating costs dropped far enough for the venture to be profitable. Keys had supreme "confidence that in the long run this business will become a very great and very profitable business."¹⁶¹ But the directors' store of capital didn't prepare them for the stock market crash in October of 1929.

Keys initially dismissed the crash. "The aeronautical industry as a whole will no doubt be affected by the financial developments of the past month in about the same way and to about the same degree that other similar industries will be affected," he wrote in October.¹⁶² If anything, the crash would prune smaller, poorly-capitalized companies and "automatically reduce the competition against the older, well-financed companies," including his own. But the seriousness of the crash soon became evident. By January, the value of aviation stocks had plummeted. As passenger bookings dropped, T.A.T. responding by slashing fares for a transcontinental trip, to \$127.50 (\$1,600) from \$319 (\$4,000). The company cheerily announced the cuts with a

¹⁶⁰ Clement M. Keys, "The Outlook for Commercial Aviation," 02/1929, NASM Keys, box 22, folder 5.

¹⁶¹ Clement M. Keys, "Making Aviation Pay," 11/13/1929. NASM Keys, box 22, folder 5.

¹⁶² Clement M. Keys, statement for *Air Transportation*, 10/31/1929. NASM Keys, box 22, folder 5.

justification that obscured the new financial reality: "Recognizing the ever increasing popularity of air travel, with the rapidly rising demand for the type of luxurious transportation offered by Transcontinental Air Transport, Inc., a substantial reduction in rates has been made."¹⁶³ Privately, the company was less buoyant. In the annual report for the 1929 fiscal year, Keys wrote: "While operating losses had, of course, been expected during the pioneer steps of this enterprise, these results were disappointing, both in respect to gross volume of traffic and to cost of operations."¹⁶⁴ Indeed, the fare cuts only made a bad situation worse. Before the crash, Keys had written that "It is hardly possible to sell, at a profit, transportation by air for passengers"—and that was when the airline planned on fares of \$300 or more.¹⁶⁵ The airline was left with a revenue of about six cents per passenger mile, far below its per-mile operating costs. By the end of 1929, T.A.T. was losing money on every flight. After the receipts were totaled, the airline had spent three times as much money as it made, nearly \$500,000 in revenue (\$6 million) but more than \$1.5 million in expenses (\$18 million). In fiscal year 1929, the airline posted an operating deficit of nearly a million dollars (\$12 million) and was on track to lose several hundred thousand dollars in 1930.¹⁶⁶ Its financial position was not sustainable. For the last three years, Keys had carefully shaped and shepherded the airline from its first conception to its final realization. Now, "the first great passenger trunk line of the country"¹⁶⁷ seemed headed for bankruptcy.

¹⁶³ Transcontinental Air Transport, " 'The Day We Are Properly Ready,' " TAT Plane Talk Nov. 1929: 1-4. SPL AHC.

¹⁶⁴ Transcontinental Air Transport, Annual Report [FY 1929].

¹⁶⁵ Clement M. Keys, "The Business End of Aviation," speech, 05/1929. NASM Keys, box 22, folder 5.

¹⁶⁶ Transcontinental Air Transport, Annual Report [FY 1929].

¹⁶⁷ Keys and Coffin to Lindbergh, MSSA Lindbergh.

Coda, or: "How Far is An Hour?"

These are fundamental things. On them the future must be built. You may take it for granted that that future is a permanent future, that air transport is a settled and permanent thing and that nearly all of you will live to see every city in the United States linked to every other city by this fastest known means of safe transportation.

– Clement Keys, January 1929 ¹⁶⁸

In 1930, as Transcontinental Air Transport wobbled through another rough year, U.S. Postmaster General Walter Folger Brown looked out over a nation buzzing with small airplanes operated by small airlines. Brown shared Keys' desire for national passenger service: He wanted "an integrated national network of transcontinental lines operated by large, well-financed corporations in regulated competition with one another." But instead, the country had "a plethora of little airlines covering the nation," and Brown "could not build a national air transportation network around little companies."¹⁶⁹ Brown had the power to dramatically restructure the nation's air transportation system. Most of the country's airlines were under contract with the Post Office to carry airmail, and the McNary-Watres Act, which had just passed into law on April 29, 1930, expanded Brown's authority over how routes and contracts were assigned to airlines—power that he used to promote passenger aviation.

Brown changed airmail contracts to add a per-mile bonus for airplanes that carried passengers, subsidizing and thereby encouraging passenger transport. Then, over a series of conferences with aviation industry leaders, Brown consolidated the industry by encouraging—and sometimes mandating—mergers between companies. His vision, van der Linden writes, "involved an integrated national network of

¹⁶⁸ Keys, "What the Rail-Air Business Means," NASM Keys.

¹⁶⁹ van der Linden, *Airlines and Air Mail*, 153, 165.

transcontinental lines operated by large, well-financed corporations in regulated competition with each other," and his goal was "to save the major passenger airlines."¹⁷⁰ Brown aimed to have three transcontinental lines, following northern, middle, and southern routes. For the middle route, Brown picked out T.A.T. and Western Air Express. T.A.T., experience-rich, cash-poor, and still losing money, readily acceded to Brown's proposition that it merge with Western, a thriving, successful regional airmail line with a network that covered the West and Southwest. Keys had courted Western before, offering an airmail partnership with National Air Transport in 1925 and a merger with T.A.T. in 1928. Western had no interest then, and less interest in 1930: Why should it take on a struggling company? But Brown insisted, and hinted that their combined company would be awarded the airmail contract for the middle route. After six weeks of negotiations, Western's directors acquiesced and the companies merged, forming a new operation: Transcontinental and Western Air. It, too, would be The Lindbergh Line.

Transcontinental Air Transport stopped flying on July 15, 1930, one year and eight days after it began passenger service. One of its promotional pamphlets—studded with images of the large Tri-Motors in flight, their smartly uniformed pilots and couriers, the radio and weather men hard at work—had told passengers that "TAT service, while transcontinental in its scope, is an extension of existing transportation facilities throughout the United States," the pamphlet read. "It is, in a word, the highest achievement of American Transportation."¹⁷¹ And for a while, it was. It had been as if Keys, a modern-day Prometheus, had stolen the technology of flight from aviation demigods and presented it to mere mortals. He had made the skies safe and

¹⁷⁰ van der Linden, *Airlines and Air Mail*, 153-154.

¹⁷¹ Transcontinental Air Transport, *Coast to Coast by Plane and Train [Brochure]*, MOF Hatfield.

comfortable, a place where well-to-do travelers could play cards, dictate telegrams, or take afternoon tea. He had tamed the clouds and domesticated the idea of flight.

On December 29, 1934, long after Lindbergh's flight and Lindbergh's button and the merger with Western Air Express, T.A.T. stockholders found a letter from the company's secretary, asking them to swap their shares of stock for shares of T.&W.A.¹⁷² The stock-swap formally ended T.A.T.'s long flight.

The legacy of this short-lived airline is two-fold. First, the possibility of crossing the continent in 48 hours shrunk the nation. Second, the airline's transcontinental mission brought the West closer to the East. T.A.T is responsible for the underpinnings of these two ideas, a smaller nation and a closer West.

The airplane resembled the railroad in its ability to collapse distance. Wolfgang Schivelbusch, in his analysis of the changes wrought by the railroad, wrote that the railroad's speed meant that a "given spatial distance, traditionally covered in a fixed amount of travel time, could suddenly be dealt with in a fraction of that time; to put it another way, the same amount of time permitted one to cover the old spatial distance many times over."¹⁷³ Just as "space was both diminished *and* expanded" by the speed of the railroad,¹⁷⁴ so to was it diminished and expanded by the speed of the airplane, drawing physically distant cities and towns closer together in time. Speed, intimately bound to time, brought distant places closer. This rhetoric was used again and again in the airline's promotional materials and by the reporters who wrote articles about its service. A transcontinental airline, opined the *San Francisco Chronicle*, "must have a

¹⁷² Transcontinental Air Transport, Inc., letter to stockholders, 12/29/1934. MSSA Lindbergh, MS 325, series III, box 124, folder 513.

¹⁷³ Schivelbusch, *The Railway Journey*, 33.

¹⁷⁴ Schivelbusch, *The Railway Journey*, 35. Emphasis original.

speeding up influence on transaction of business and stimulation of travel. It puts within reach of many people what they have been denied by limitations of time."¹⁷⁵ Relative distance between cities melted into ever-smaller units of time. In its marketing materials, T.A.T. compared the relative travel times between cities: "Kansas City, normally 34 hours from New York [by train] is brought within 19 hours." An air trip between Los Angeles, California, and Clovis, New Mexico, was "six hours against almost a 24-hour journey by train." And a flight between Indianapolis, Indianapolis, and St. Louis, Missouri, was only two hours, "a saving of four hours in the heart of the business day."¹⁷⁶ Speed was at once distance, time, and commodity. "At any of the ticket windows nearby, you can purchase a small strip of pasteboard that represents two useful days added to your life—two days snatched from traveling time,"¹⁷⁷ wrote the Pennsylvania Railroad in an advertisement for T.A.T.

The airplane's boundlessness allowed it to be seen as an instrument of internationalization. As Jenifer van Vleck has argued: "Soaring above the territorial borders of nation-states, airplanes appeared to diminish the very significance of geopolitics."¹⁷⁸ Aboard an airplane, borders could be not just crossed but transcended. Aviation "allowed Americans to conceive the entire globe as an object of analysis and sphere of influence."¹⁷⁹ The airplane was a tool for looking outward, for thinking the world and imagining America's place within it. But it was also used to look inward and to reinforce existing borders. Benedict Anderson has argued that the rise of print

¹⁷⁵ "What It Means When Railroads Join Hands With Air Transport," *The San Francisco Chronicle*.

¹⁷⁶ Transcontinental Air Transport, "TAT Rate Reduction Effective November 15," SPL AHC.

¹⁷⁷ Pennsylvania Railroad, Two Days by Plane, Two Nights by Train, MOF Hatfield.

¹⁷⁸ van Vleck, "No Distant Places," 2.

¹⁷⁹ van Vleck, "No Distant Places," 7.

capitalism in the eighteenth century "made it possible to 'think' the nation," to understand a group of invisible fellow-readers as homogenous and interconnected.¹⁸⁰ Similarly, T.A.T.'s explicit project to be a transcontinental trunk line, a national backbone, offered a new way to think the nation: As a national entity solidly contained between two coasts, instead of a boundless confederation of local or regional groups. Keys's decision to fly transcontinentally—rather than locally, or up or down a coast, or across an ocean—was a deliberate one. The choice was guided, partially, by concerns about cost, safety, and reliability, but also by a desire to bridge the continent.

A transcontinental trip implies completion or enclosure: There is nowhere further to go. Such journeys have long captured the American imagination and the journey to the Pacific is a well-known trope of national incorporation. Meriwether Lewis and William Clark surveyed newly-acquired western lands with their Corps of Discovery between 1804 and 1806. In the middle of the nineteenth century, thousands of pioneers traveled the Overland Trail between Missouri and Oregon. Transcontinental stagecoach service began in 1858, offering a three-week journey to the Pacific coast. And the completion of the transcontinental railroad line in 1869 seemed especially heartening, coming as it did at the end of the Civil War. Now air travel would have its turn to bridge the trans-Mississippi West. "The distance between the Atlantic and the Pacific is being gradually eliminated by air and rail," read the letter of introduction that Amelia Earhart carried to the governor of California on T.A.T.'s inaugural flight.¹⁸¹ The interconnection that passenger aviation promised was regarded in national terms. "The possibility of drawing the two coast lines of America closer together by two days, has perhaps made the

¹⁸⁰ Anderson, *Imagined Communities*, 44-45.

¹⁸¹ "Lindbergh Signal Opens Air-Rail Line," *The New York Times*.

deepest impression" on passengers, noted one of T.A.T.'s circulars.¹⁸² C. C. Young, the governor of California, wrote in a telegram praising T.A.T.'s start of service of his "feeling of pleasure that the Atlantic and Pacific seaboard are to be so closely linked by the new air transportation service which is being inaugurated today. Anyone who contributes toward this bringing nearer together the various states of the Union is doing a splendid service to our country as a whole."¹⁸³ Faster transportation meant a smaller country.

T.A.T.'s advertisements further suggested that to see the country from above was to know it in a new way. Altitude offered a totalizing framework that could accommodate all the unique parts of the United States. T.A.T.'s planes flew at relatively low altitudes by contemporary standards: Between 1,000 and 5,000 feet, compared to 30,000 feet today. Just as Lindbergh's recounting of his 1928 national air tour focussed on how he came to know the country through its geography—"New England's valleys dotted by white villages, the crystal waters of Michigan's great lakes, Arizona's pastel deserts"¹⁸⁴—T.A.T.'s promotional materials emphasized that the airplane's elevation above the earth was a new way for passengers to understand the country below. "The snow capped mountain ridges take on a beauty not apparent from the earth. Historic spots such as old Fort Wingate, a veteran of Indian fighting, now an Indian school and hospital, lie directly on the route," read one pamphlet.¹⁸⁵ The plane, at a remove from the terrain below it, offered new perspectives on the nation's geography and history, and

¹⁸² Transcontinental Air Transport, "The First Thirty Days," TAT Plane Talk Aug. 1929. SPL AHC.

¹⁸³ Qtd. in TAT Plane Talk, "The Day We Are Properly Ready," SPL AHC.

¹⁸⁴ Lindbergh, Autobiography, 81.

¹⁸⁵ Transcontinental Air Transport, Transcontinental Air Transport, Inc. [Brochure], MSSA Lindbergh.

passenger service translated air-mindedness into an air-nationalism. "You have crossed the continent in 48 hours and the journey has left deep impressions of the vast beauty of America," read a T.A.T. pamphlet.¹⁸⁶ These two aspects of flight, speed and altitude, each made the country feel smaller.

While T.A.T. was national in scope, it found special resonance in the West. Aviation was growing quickly in the West, *The New York Times* reported in 1929, citing a report published by the Department of Commerce: "Three air lines on the Pacific Coast carried the largest number of passengers of all aviation services in the country during 1928."¹⁸⁷ One of the more surprising features of the report, the *Times* noted, was the extent to which people in the West were using aviation for local travel: flying up and down the West Coast. This enthusiasm for aviation was also visible in different regional responses to T.A.T.'s announcement in May of 1928 that it was planning a transcontinental airline. On the East Coast, *The New York Times* ran a brief story under the headline "Air Rail Line To Link All Principal Cities,"¹⁸⁸ a story that largely replicated T.A.T.'s press release.¹⁸⁹ But on the West Coast, the announcement of service was greeted both with excitement and dismay. The *San Francisco Chronicle* announced the service with a banner headline—"Air, Rail Combine To Link Coasts"—across its front page. In their headlines, these papers betrayed their regional ties: To the West, the airline existed to link the coasts, not to connect different cities. The *San Francisco*

¹⁸⁶ Transcontinental Air Transport, *Transcontinental Air Transport, Inc. [Brochure]*, MSSA Lindbergh.

¹⁸⁷ "3 Air Lines Carried 13,971 Passengers," *The New York Times*, 07 Jul. 1929: 24, [ProQuest Historical Newspapers The New York Times \(1851-2006\)](#), 2 Nov. 2009.

¹⁸⁸ "Air Rail Line to Link All Principal Cities," *The New York Times*, 16 May 1928, [ProQuest Historical Newspapers The New York Times \(1851-2006\)](#), 2 Nov. 2009.

¹⁸⁹ Transcontinental Air Transport, press release announcing service, [05/1928]. NASM Keys, box 26, folder 28.

Examiner, the *Chronicle's* rival paper, was so miffed that Los Angeles had been chosen as the airline's western terminus that it mounted a publicity campaign for T.A.T. service, more than a year before such service became available. The *Examiner's* response suggests that some in the West saw access to aviation much as they had seen railroads: As masters of their economic future. Perhaps the West, having experienced the economic boom that accompanied the railroad, had cause to view the airplane with excitement. The East, more established, perhaps found aviation less essential. But the interconnection aviation afforded remained exciting.

That excitement outlived the airline. Airline advertisements from the late 1930s and early 1940s emphasized linking the West and themes of national interconnection. An advertisement for United Air Lines offered the headline "New York to California in the Age of Flight," under a montage of transportation (see Figure 7). On the ground, right to left, a covered wagon, stagecoach, Pony Express rider, and locomotive all sped towards the viewer, recapitulating the transportation methods that bridged the West. Above, transcendent, was the silhouette of an airplane. "Over this Overland Route trudged the covered wagon, traveling only as far in a whole day as you will go [by plane] in three minutes."¹⁹⁰ The West had been conquered with the aid of many different types of transportation technology, but only with aviation, the advertisement suggested, had the vast West been tamed, shrunk to manageable proportions. An advertisement for the aviation industry summarized the new index of speed and distance, asking "How Far Is An Hour?" under an image of a western road leading into a sunset (see Figure 8). A horse and buggy crawled towards the sunset; above them, dark against the sky, a silver

¹⁹⁰ United Air Lines "New York to California in the Age of Flight," 1944. [Ad*Access](#), 1 Mar. 2010.

airplane sped west. "To the thousands of people who travel by air, miles are merely minutes...oceans and continents, hours," the ad read.¹⁹¹ The speed of the airplane collapsed time and distance into each other, shrinking the continent. With air travel, America was smaller in 1930 than it had been in 1920; by 1940, it would be smaller still. T.A.T. set off a ceaseless drive for faster transcontinental flights that culminated with five-hour transcontinental jet travel in 1959.

Aviation also brought the West within closer reach of Eastern tourists. Western tourism had originated with the Santa Fe Railway and with Fred Harvey, whose package tours and souvenirs created an idea of the West as an ancient, authentic land of stunning natural beauty. T.A.T. was the first airline to use tourism as a way of marketing passenger service, an idea that outlasted its corporate death. In pamphlets from the 1930s, American Airlines promoted the West as "the land of Yesterday." Its pamphlets, directed at "New Yorkers, Detroiters, Chicagoans," and other Easterners,¹⁹² called the West "the country of the Last Frontier—here is romance, color and thrilling adventure."¹⁹³ The West was marketed as exotic, yet familiar, a place of cowboys and cactus within America's own borders. The West offered something for everyone: If tourists did not care to play cowboy on a dude ranch, one could "come, forget your cares, rest and play in this golden sunshine and breathe this dry, bracing air—that's living!"¹⁹⁴ The West was revitalizing, restorative, the antidote to a dull life. Conveniently, speedy airplanes put the distant West within reach. "For a Grand Vacation, FLY," read

¹⁹¹ "How far is an hour?" The Airlines of the United States, 1943. [Ad*Access](#), 1 Mar. 2010. Ellipsis original.

¹⁹² American Airlines, [\[timetable\]](#), 11/1/1935, Beinecke Western Americana Collection.

¹⁹³ American Airlines, [\[timetable\]](#), 10/6/1932, Beinecke Western Americana Collection.

¹⁹⁴ American Airlines, [\[timetable\]](#), 10/6/1932, Beinecke Western Americana Collection.

one pamphlet, explaining that an air traveler could "Eliminate hurry from your itinerary... yet see more and go farther, in less time." Flying offered "the economy of the most vacation for your money. For example: If you have a two-weeks holiday, you can spend 14 days vacationing, without hustle and fuss... when you let our planes do your hurrying."¹⁹⁵ The ideas that T.A.T. had used to sell its service—speed, time, leisure, the ability to shrink distance—appeared again and again in aviation advertisements during the following years.

The question is this: Did Clement Keys and Transcontinental Air Transport succeed or fail? Over two years, Keys raised five million dollars in capital, persuaded Charles Lindbergh and the Pennsylvania Railroad and dozens of other people and companies to join the venture, and directed the construction of a national air route and its accompanying weather system. He built it. Passengers didn't come. After a year of flying at a loss, the airline was desperate and readily accepted the Post Office's request that it merge with Western Air Express. Financially, the airline failed.

But Transcontinental Air Transport remains important not so much for what it accomplished during its short life, but for what it left behind. The airline literally paved the way for future aviation,¹⁹⁶ leaving a physical infrastructure that included more than a dozen airports, nearly fifty weather stations, and hundreds of radio towers. It built an ideological infrastructure and showed how aviation could have a meaningful impact on the lives of Americans, whether they were business travelers or tourists. It set the standard and paradigm for passenger service, with in-flight meals, adjustable seats, and passenger stewards. And it pushed aviation technology forward, demanding airplanes

¹⁹⁵ American Airlines, [timetable], 6/1/1936, Beinecke Western Americana Collection.

¹⁹⁶ I am grateful to Jean-Christophe Agnew for suggesting this turn of phrase.

that were larger, faster, and safer. A truly national airline, a paradigm of service, an enduring call for better airplanes: These were new ideas at the time, and their staying power has proved immense. Transcontinental Air Transport flung America into a new air age, an age that was, in a way, the fulfillment of Lindbergh's implicit promise: Build an airport and the future will arrive. Between there and here, then and now, Transcontinental Air Transport remains an essential link between an America that rode the rails and an America that wings the skies.

Figure 1 - Clement Keys and Charles Lindbergh



Clement Keys, founder and president of Transcontinental Air Transport, at left. Charles Lindbergh, chairman of the airline's Technical Committee, at right.¹⁹⁷

¹⁹⁷ "Transcontinental Air Transport, Inc." TAT Plane Talk, SPL AHC.

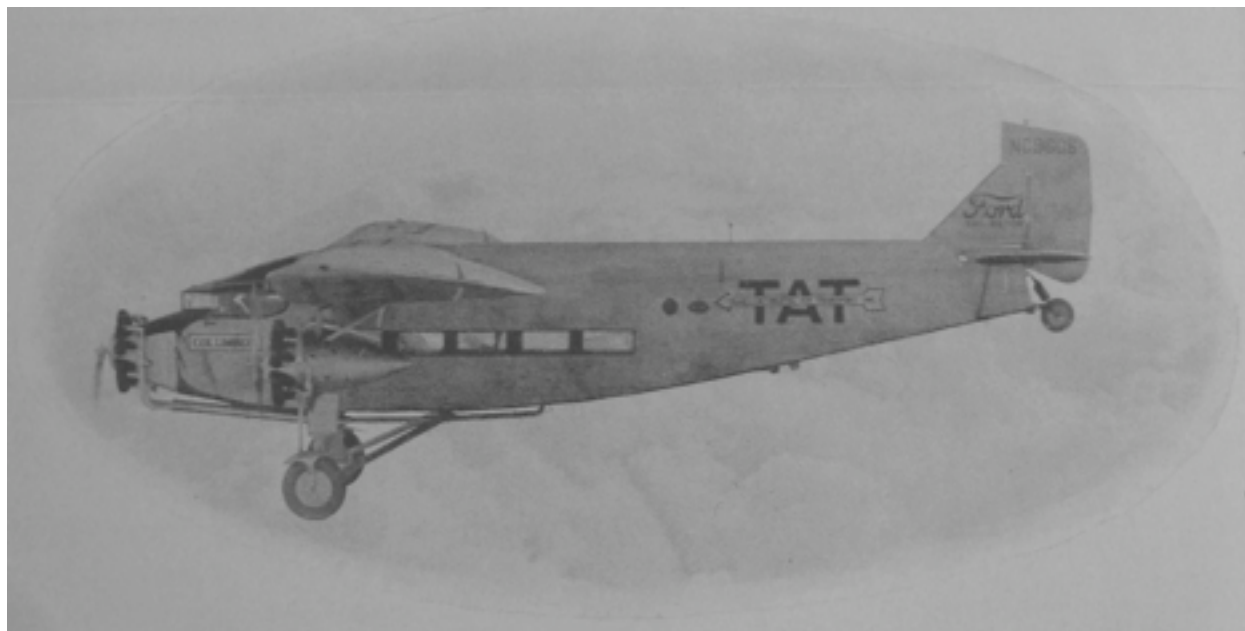
Figure 2 - "Lindbergh Does It!"



The New York Times announced Lindbergh's successful transatlantic flight.¹⁹⁸

¹⁹⁸ "Lindbergh Does It! To Paris In 33 1/2 Hours," *The New York Times*, 22 May 1927

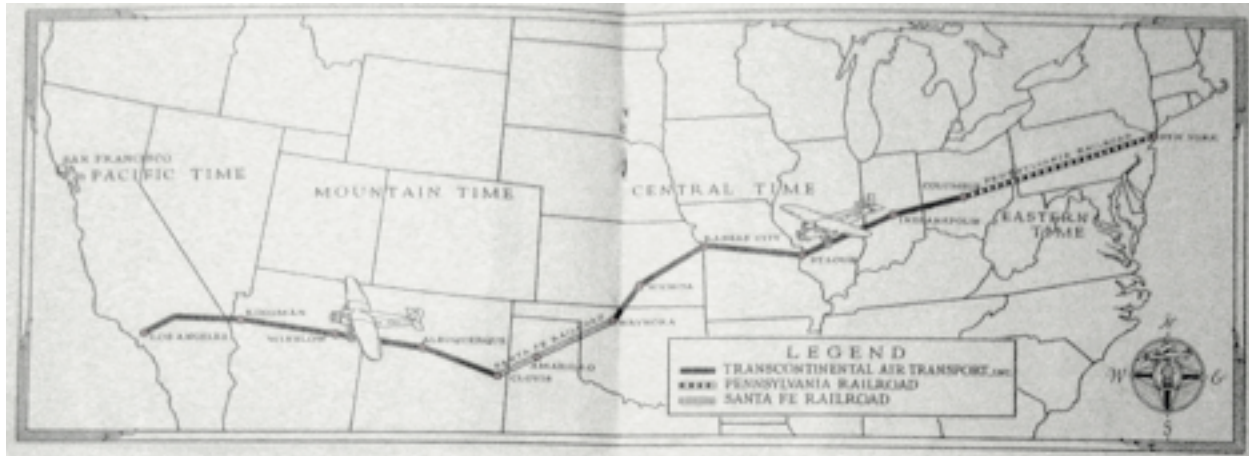
Figure 3 - *The City of Columbus*



The City of Columbus, one of the airline's Ford Tri-Motors, as pictured in the first issue of *TAT Plane Talk*. Note the unmuffled engines at the nose and under the wing, which made the uninsulated cabin very loud.¹⁹⁹

¹⁹⁹ "Transcontinental Air Transport, Inc." *TAT Plane Talk*, SPL AHC.

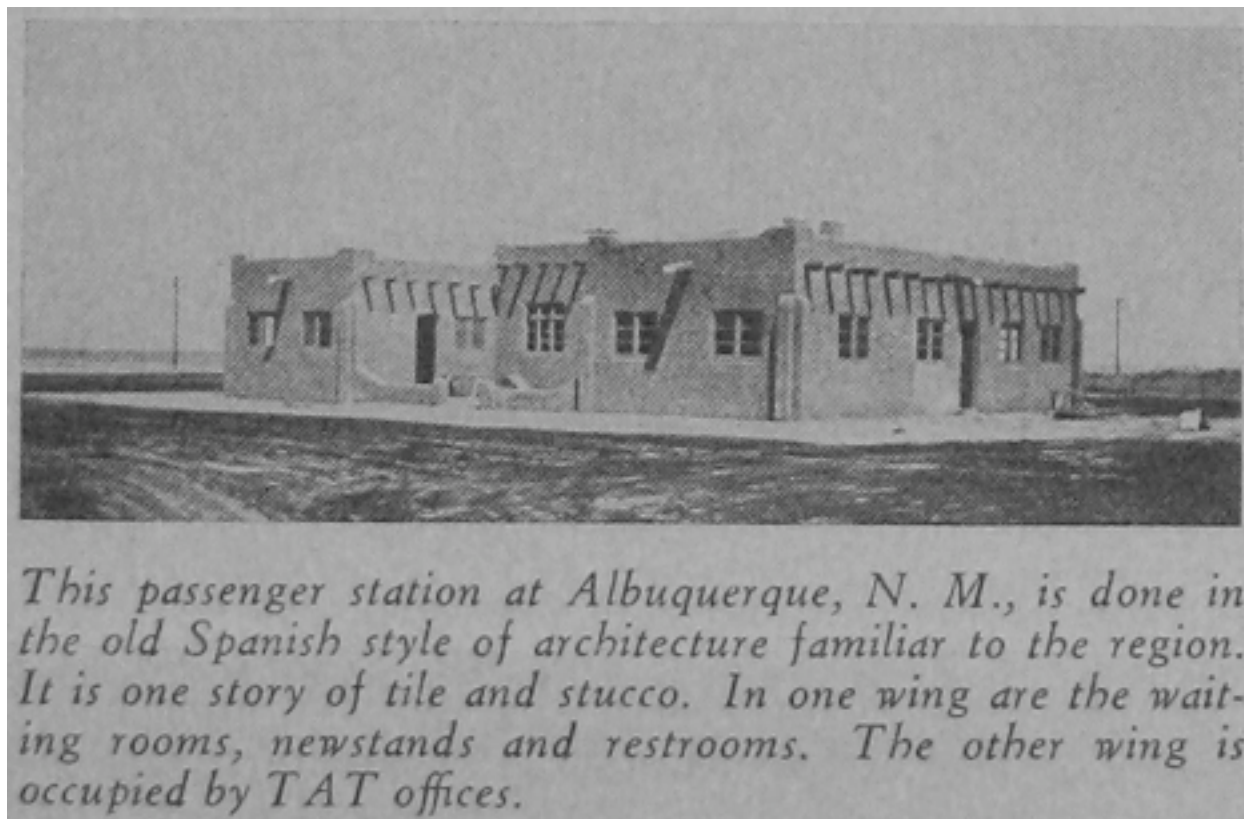
Figure 4 - The T.A.T. Route



The airline's transcontinental route was partly constrained by geography, the routes of its partner railroads, and the population centers of the country. The route wanders off a direct route to include Kansas City, Missouri, and to include the overnight Santa Fe Railway link between Waynoka, Oklahoma, and Clovis, New Mexico.²⁰⁰

²⁰⁰ Transcontinental Air Transport, Transcontinental Air Transport, Inc. [Brochure], MSSA Lindbergh.

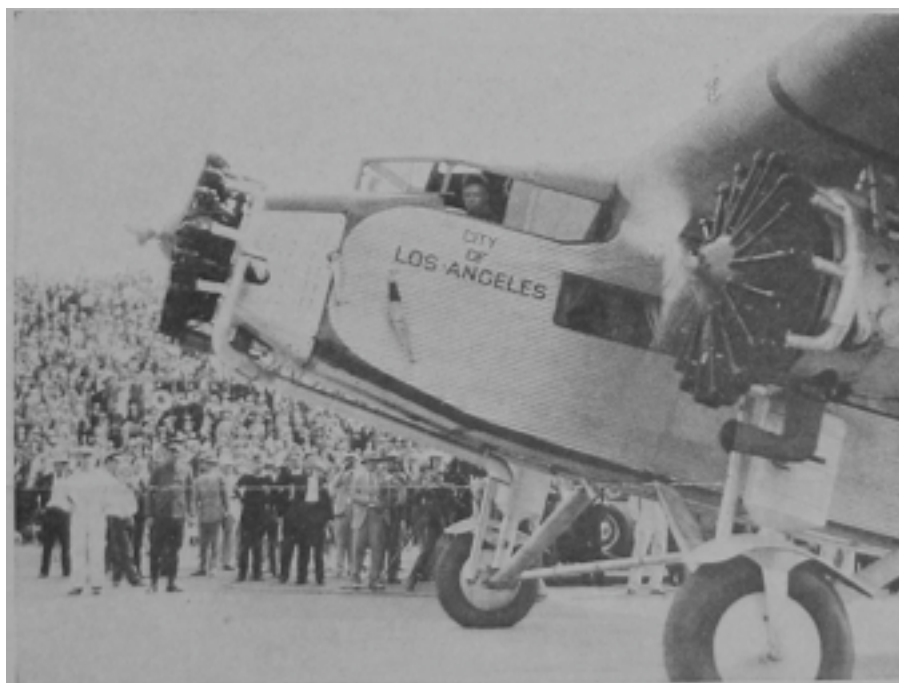
Figure 5 - T.A.T. Passenger Station in Albuquerque, New Mexico



T.A.T.'s Albuquerque passenger station, pictured in *TAT Plane Talk*.²⁰¹

²⁰¹ "Construction Progress" *TAT Plane Talk*, SPL AHC.

Figure 6 - The Inauguration of Service



At top, the christening of The Airway Limited just before its departure from Pennsylvania Station. At bottom, Charles Lindbergh at the controls of *The City of Los Angeles* just before its departure from Los Angeles.²⁰²

²⁰² " 'The Day We Are Properly Ready,' " TAT Plane Talk, SPL AHC.

Figure 7 - "New York to California in the Age of Flight."

New York to California in the *Age of Flight*

Today in a nation fighting for its very existence, we are placing much of the burden of war on the airplane. What can we expect of it in a world of peace?

.

SOME DAY you will fly across this great country of ours. Then you will feel as never before the drama of its past . . . the greatness of its future.

Chances are you will choose the direct route . . . the Main Line Airway. In the space of a few hours, beneath your giant United Mainliner will spread out the whole vast panorama of this continent — its great industrial centers, its thousands of towns and hamlets, its

rolling farmlands and rich cattle regions, its stately forests and fertile plains.

History itself will unfold before your eyes, for the Main Line Airway is the path of the pioneers. Over this Overland Route trudged the covered wagon, traveling only as far in a whole day as you will go in three minutes. You will trace the course of the Pony Express, the first transcontinental railroad and telegraph line, the first coast-to-coast highway. You will fly over the route selected by Government engineers for the first air mail service across the country.

Today, as then, the direct route is the strategic route over which flows a nation's commerce. Today, in Victory's cause,

United is maintaining important scheduled passenger, mail and express service on the Main Line Airway and is also flying to every corner of this land and beyond its shores on military missions.

When peace is finally won, all of United's hundreds of millions of miles of flying experience will be devoted to the realization of the Age of Flight.

★ Buy War Bonds and Stamps for Victory ★

UNITED
AIR LINES
THE MAIN LINE AIRWAY

A United Air Lines advertisement from 1944 compares the speed of air travel to the speed of early types of transportation.²⁰³

²⁰³ United Air Lines "New York to California in the Age of Flight," 1944.

Figure 8 - "How Far Is An Hour?"



How FAR is an hour?

IS it 4 miles or 400? It depends on how you travel! When grandpa was a boy, he spent most of a Saturday getting to town and back with a horse and buggy.

But today he can step into an airliner and cross the country before the sun goes down.

To the thousands of people who travel by air, miles are mostly minutes... oceans and continents, hours.

Today, the Airlines maintain the fastest passenger, mail and cargo schedules in the world — serving hundreds of U. S. cities and scores of foreign countries.

For the Army and Navy, the Airlines also operate an armada of transport planes that reduce warfare days to air hours in supplying every fighting front.

Yet the 180-mile-an-hour speed on which the Airlines base their present schedules will probably seem slow indeed, when the giant transports of the future lift their wings to global skies.

What that speed will be — how far it will take you in 60 minutes — can only be conjectured by this fact: Our aircraft builders are now making military planes that fly more than 400 miles an hour — 7 miles a minute!

When you travel by Air make reservations early; plans cannot easily be changed. When you use Air Express speed delivery by dispatching shipments as soon as they're ready. Air Transport Association, 1515 Massachusetts Ave., N. W., Washington, D. C.

IF YOU CAN'T GO OVER, COME AROUND... BUY BONDS!

THE AIRLINES OF THE UNITED STATES

AIR TRANSPORT GETS THERE FIRST... PASSENGERS... MAIL... AIR EXPRESS

An industry advertisement from 1943 compares the speed of air travel to the speed of early types of transportation.²⁰⁴

²⁰⁴ "How far is an hour?" The Airlines of the United States, 1943.

Appendix 1 — Companies owned or controlled by C. M. Keys

List prepared in 1930.²⁰⁵

Aviation Corporation of California
Aviation Credit Corporation
Aviation Securities Corporation, Chicago
Aviation Securities of New England
Aviation Exploration, Inc.
Bendix Aviation Corporation
Central Airport, Inc.
Curtiss-Wright Corporation
Curtiss Aeroplane Export Corporation
Curtiss Aeroplane & Motor Company, Inc.
Curtiss-Wright Flying Service, Inc.
Curtiss-Wright Airports Corporation
Curtiss-Safroni Corporation
Curtiss-Robertson Airplane Manufacturing Co.
Curtiss Assets Corporation
Curtiss-Reid Aircraft Co., Ltd., Montreal
Intercontinent Aviation, Inc.
Douglas Aircraft Co., Inc.
Keystone Aircraft Corporation
National Air Transport, Inc.
National Aviation Corporation
North American Aviation, Inc.
Pitcairn Aviation, Inc.
Sperry Gyroscope Company, Inc.
Transcontinental Air Transport, Inc.

²⁰⁵ "Aeronautical companies with which MR C M KEYS is affiliated, either as an Officer or Director," NASM Keys.

Appendix 2 — The Board of Directors of Transcontinental Air Transport²⁰⁶

Harold Bixby

Vice-president, The State National Bank, St. Louis, Missouri.

Henry Breckinridge

Breckinridge & Shonk, Attorneys, St. Louis, Missouri.

Howard E. Coffin

Chairman, National Air Transport, Inc.†; Director, National Aviation Corporation†;

Director, North American Aviation, Inc.†; Director, Curtiss Flying Service, Inc.†

J. Cheever Cowdin*

Vice-president, Blair & Company; Vice-president, North American Aviation, Inc.†;

Director, North American Aviation, Inc.†; Director, National Aviation Corporation†;

Director, Curtiss Flying Service, Inc.†

Chester W. Cuthell*

Cuthell, Hotchkiss & Mills, Attys.; Director, North American Aviation, Inc.†;

Director, National Aviation Corporation†; Director, Curtiss Flying Service, Inc.†;

Director, Curtiss Aeroplane & Motor Co., Inc.†

Thomas Dysart

Knight, Dysart & Gamble, St. Louis, Missouri; Director, North American Aviation, Inc.†

Thomas B. Eastland

Bond & Goodwin & Tucker, Inc., San Francisco, California; Director, Aviation Corporation of California†; Director, North American Aviation, Inc.†

Julien L. Eysmans

Vice-president in charge of Traffic, Pennsylvania Railroad.

Fred ("Freddy") Harvey*

Fred Harvey, Kansas City, Missouri.

Paul Henderson*

Vice-president, National Air Transport, Inc.†; Director, National Air Transport,

Inc.†; Director, North American Aviation, Inc.†

Richard Hoyt*

Hayden, Stone & Company; Chairman of the Board, Wright Aeronautical Corporation.†

Leonard Kennedy*

Vice-president, Curtiss Aeroplane and Motor Co., Inc.†; Director, National Air

Transport, Inc.†; Director, North American Aviation, Inc.†; Director, National

Aviation Corporation†; Director, Curtiss Flying Service, Inc.†

C. M. Keys*

C. M. Keys & Co.†; President, Curtiss Aeroplane and Motor Co., Inc.†; President,

North American Aviation, Inc.†; Director, National Air Transport, Inc.†; Director,

National Aviation Corporation†; Director, Curtiss Flying Service, Inc.†; Director,

Curtiss Aeroplane and Motor Co., Inc.†

Harry B. Knight

Knight, Dysart & Gamble, St. Louis, Missouri.

²⁰⁶ "Transcontinental Air Transport, Inc." TAT Plane Talk, SPL AHC.

Charles L. Lawrence

President, Wright Aeronautical Corporation†; Director, National Air Transport, Inc.†; Director, National Aviation Corporation.†

Walter Marvin

Hemphill, Noyes & Co.; Director, Curtiss Flying Service, Inc.†; Director, National Aviation Corporation†; Director, North American Aviation, Inc.†

William B. Mayo

Ford Motor Company

Earle H. Reynolds

President, National Air Transport, Inc.†; President, Peoples Trust & Savings Bank, Chicago; Director, Curtiss Flying Service, Inc.†; Director, North American Aviation, Inc.†; Director, National Aviation Corporation.†

Daniel M. Sheaffer*

Chief of Passenger Transportation, Pennsylvania Railroad.

James C. Willson

J. C. Willson & Co., Louisville, Kentucky; President, National Aviation Corporation†; Director, Curtiss Aeroplane & Export Corporation†; Director, Curtiss Flying Service, Inc.†; Director, North American Aviation, Inc.†

William H. Vanderbilt

Capitalist; Director, Curtiss Flying Service, Inc.†; Director, North American Aviation, Inc.†

Names marked by asterisks are members of an Executive Committee.

Companies marked by daggers are owned or controlled by C. M. Keys, as of 1930.

Bibliography

Primary Sources

Archival Collections

Aviation History Collection, Seattle Public Library, Seattle, Washington. *The Seattle*

Public Library is one of the few archives to have an entire set of TAT Plane Talk, the company's monthly newsletter that reported, in exquisite detail, every aspect of the airline's construction. Abbreviated SPL AHC in footnotes.

Charles Augustus Lindbergh Papers, Manuscripts & Archives, Yale University Library,

New Haven, Connecticut. *The Lindbergh Papers provides documentation of the aviator's entire life, including his involvement with Transcontinental Air Transport. Abbreviated MSSA Lindbergh in footnotes.*

Clement Melville Keys Papers, Smithsonian National Air & Space Museum Archives,

Washington, DC. *The Keys Papers are an invaluable resource for understanding the man and the airline he built. They document the formation and construction of Transcontinental Air Transport. Abbreviated NASM Keys in footnotes.*

The Hatfield Collection, Museum of Flight, Seattle, Washington. *The Hatfield Collection*

is an assortment of aviation esoterica loosely organized around the development of aviation in California. Abbreviated MOF Hatfield in footnotes.

The Western Americana Collection, Beinecke Rare Book and Manuscript Library, Yale

University, New Haven, Connecticut. *The archive's holdings of material related to travel and transportation in the American West are extensive. Among the few items related to aviation are pamphlets and timetables from the 1930s. Abbreviated Beinecke Western Americana Collection in footnotes.*

Annual Reports

Transcontinental Air Transport. Annual Report [FY 1928]. Wilmington, Del.: 1929.

Transcontinental Air Transport. Annual Report [FY 1929]. Wilmington, Del.: 1930.

Periodicals

The Atlanta Constitution

Fortune Magazine

Harper's Monthly Magazine

The Los Angeles Times

The New York Times

The New Yorker

TAT Plane Talk

TIME Magazine

The San Francisco Chronicle

The San Francisco Examiner

Secondary Sources

Books

Anderson, Benedict R. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso, 1991.

Berg, A. Scott. *Lindbergh*. New York: Putnam, 1998.

Cleveland, Reginald M. *America Fledges Wings: The History of the Daniel Guggenheim Fund for the Promotion of Aeronautics*. New York: Pitman Publishing Corp., 1942.

Corn, Joseph J. *The Winged Gospel: America's Romance with Aviation, 1900-1950*.

New York: Oxford UP, 1983.

Courtwright, David T. *Sky as Frontier: Adventure, Aviation, and Empire*. College Station:

Texas A&M UP, 2005.

Davies, R. E. G. *Airlines of the United States Since 1914*. London: Putnam, 1972.

Fried, Stephen. *Appetite for America: How Visionary Businessman Fred Harvey Built a*

Railroad Hospitality Empire That Civilized the Wild West. New York: Bantam,
2010.

Giblin, James. *Charles A. Lindbergh: A Human Hero*. New York: Clarion Books, 1997.

Gordon, Alastair. *Naked Airport: A Cultural History of the World's Most Revolutionary*

Structure. New York: H. Holt, 2004.

Hauser, Kitty. *Bloody Old Britain: O.G.S. Crawford and the Archaeology of Modern Life*.

London: Granta UK, 2008.

Hixson, Walter L. *Charles A. Lindbergh, Lone Eagle*. New York: HarperCollins College

Publishers, 1996.

Hudson, Kenneth. *Air Travel; a Social History*. Totowa, N.J.: Rowman and Littlefield,

1972.

Kelly, Fred C. *The Wright Brothers*. New York: Harcourt, Brace and Co., 1943.

Lindbergh, Charles A. *Autobiography of Values*. New York: Harcourt Brace Jovanovich,

1978.

Miller, Ronald and David Sawers. *The Technical Development of Modern Aviation*.

London: Routledge & K. Paul, 1968.

Rust, Daniel L. *Flying Across America: The Airline Passenger Experience*. Norman: University of Oklahoma P, 2009.

Schulten, Susan. *The Geographical Imagination in America, 1880-1950*. Chicago: University of Chicago P, 2001.

Schwantes, Carlos A. *Going Places: Transportation Redefines the Twentieth-Century West*. Bloomington: Indiana UP, 2003.

Schwantes, Carlos A., and James P. Ronda. *The West the Railroads Made*. Seattle: University of Washington P, 2008.

Shaffer, Marguerite S. *See America First: Tourism and National Identity, 1880-1940*. Washington: Smithsonian Institution P, 2001.

Trachtenberg, Alan. *The Incorporation of America: Culture and Society in the Gilded Age*. New York: Hill and Wang, 1982.

van der Linden, F. Robert. *Airlines and Air Mail: The Post Office and the Birth of the Commercial Aviation Industry*. Lexington: UP of Kentucky, 2002.

Wohl, Robert. *A Passion for Wings: Aviation and the Western Imagination, 1908-1918*. New Haven: Yale UP, 1994.

Wrobel, David M. *Promised Lands: Promotion, Memory, and the Creation of the American West*. Lawrence: UP of Kansas, 2002.

Articles

Hansen, James R. "Aviation History in the Wider View." *Technology and Culture* 30 (July 1989).

Dissertations

Arenson, Adam. City of Manifest Destiny: St. Louis and the Cultural Civil War,

1848-1877. Diss. Yale U, 2008. Ann Arbor: UMI, 2008. 3342552.

van Vleck, Jenifer. "No Distant Places: Aviation and the Global American Century." Diss.
Yale U, 2009.